What's Ahead for the Gold Stocks? – page 33

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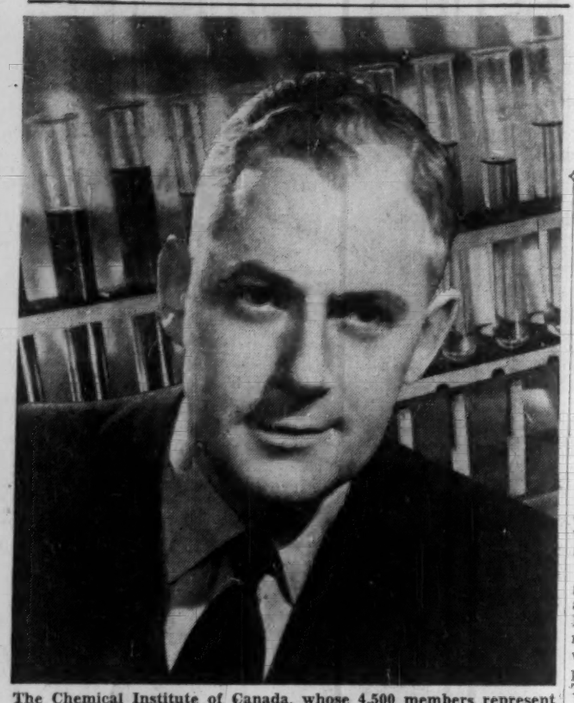
Chemical Captain



The Chemical Institute of Canada, whose 4,500 members represent every province in Canada, has elected Dr. Roger Gaudry its 1955-56 president. He is assistant director of research, Ayerst McKenna & Harrison Ltd., Montreal. For new growth and outlook of Canada's chemical industry, see this week's special Post report, pages 37 to 54.

THE NATION'S BUSINESS

Nation's Birthright Needs Protection

The Federal Government's new legislation to give it licensing control on the Canadian end of projects interfering with water flow on international rivers will be welcomed by all sensible, foresighted Canadians. (See article elsewhere this page.)

This is obviously a job that needs doing to protect the public interest and it can only be properly done at the federal level. Only great alertness and a policy of tough bargaining will give reasonable assurance that Canadians will get their fair share out of things like power projects on international streams.

If B.C.'s Premier Bennett dislikes the fact that it was his deal with Kaiser that hustled Ottawa into passing this legislation, he has only himself to blame.

Bennett's innocence got him into a position where he was giving away something definite in return, not for a certainty, but for a very dubious maybe. Smart traders and good public servants only trade something for something.

B. C.'s leader has been talking about attracting more U. S. industry to the Pacific province. By a singular feat of intellectual gymnastics, this he proposed to do by fostering the development of cheap power not in British Columbia, but south of the international border. What sense does that make?

As Jean Lesage, National Resources Minister, has said: "Is Canada reasonably to be expected to use its own resources in such a way as to encourage new industries to locate on the other side of the boundary where they will have immediate access to the U. S. market, where they will have tariff protection and get cheap power as well?"

Even on the grounds of immediate surplus of power potential Bennett's sell-out scheme is foolish. At the recent rate of growth of B. C. power demands, the people of that province in a decade or so will very much need all they have.

It is the first responsibility of honorable public men to protect the present and longer-term interests of their people.

In this case Ottawa's intervention was timely and vital.

* * * * *

More Facts Would Help

With any reasonable degree of care, Canadians should be able to make investments in common stocks now that will provide handsome profits 20 years from now. Canada is a growing economy. In all the world no country has such a promising set of qualities,— energetic people, wealth of resources, sensible, stable government.

Our friends in the U. S. have been quick to realize the potential here. They have been ready buyers of stocks of some of our best companies, in addition to the huge sums being invested directly by U. S. enterprises in our industrial and resources development.

Yet many Canadians still don't realize the potential advantage, to themselves and to the country, of investing in stocks and bonds. Studies have revealed that despite the impetus and education provided by the Victory Loan and Canada Savings Bond campaigns, investing is still a mystery to about half the people whose incomes make them logical buyers of securities.

At last week's annual meeting of the Investment Dealers' Association of Canada, a forum was devoted to the topic "Expanding the Market for Securities." The pros and cons of making night calls on prospects, of reaching professional people through their associations, of operating a correspondence service for small investors, were among the ideas discussed.

It was evident that there were many ways in which the dealers could broaden their market. One which wasn't mentioned, however, and which surely is basic, is the dissemination of more information on the securities being bought and sold.

Ignorance Breeds Poverty

People lose money in stocks and bonds for a variety of reasons, including greed, gullibility, bad judgment. Most of the losses are incurred, however, because the investment adviser or his client, or both, has insufficient information on which to decide for or against a particular transaction. And disgruntled clients are the investment community's worst advertisement.

The investment men could help expand their market and gain increased stature if they set to work in earnest on the company information problem. Such basic information requirements as consolidation of subsidiaries, quarterly reports, etc. would not be difficult to achieve if the whole investment community got behind it.

Shareholders wait several months after the year end for the annual reports of some companies. In a great many cases they get no information on company operations between reports. They sell shares in a firm because on the basis of the balance sheet, income statements and other information provided, it is overpriced and find out later (when the stock is much higher) that the company has been hiding its real value by excluding the operations of subsidiaries.

Government officials at the moment say it's a matter for the investment houses to deal with through the exchanges and dealer associations. The dealers and brokers, on the other hand, have been reluctant dragons when it comes to doing battle to enforce even their own loose company information regulations now in effect. Some firms have consistently flouted stock exchange rules, and escaped censure.

The investment houses have been doing a good job of raising the standards in their profession through their educational program. Perhaps they will turn their attention now toward higher standards of information on the securities they trade.

New Rifle To Bring Machine Tool Orders

Defense Production Department Preparing Procurement Orders To Speed Delivery of Belgian FN Automatic Rifle For The Army

By PETER NEWMAN

OTTAWA (Staff) — Million-dollar defense orders are on the way for Canada's machine tool industry.

A $10-million production program for the equipping of Canada's 49,000-man army with the Belgian-developed FN .300 automatic rifle will soon get under way at the Long Branch, Ont., plant of Canadian Arsenals Ltd. The Department of Defense Production will shortly issue its procurement orders, which are understood to include a considerable quantity of machine tools required to turn out the new weapon.

Canadian Arsenals has completed all engineering specifications to adapt the gun to Canadian conditions and change designs from metric to inch measurements.

Some 2,000 of the weapons were purchased from Belgium previously for field trials. It's understood that mass production will begin within a year, with the possibility that Canada may also turn out the gun for some NATO allies.

How many FN rifles will be produced for Canada is secret. First job will be to rearm the 15 Canadian infantry battalions of 900 men each.

The change to the Belgian product is an historic move for Canada's Army. Since 1892 — except for the 1913 to 1915 adoption of the Ross rifle — Canadian land forces have continually used successive versions of the Lee-Enfield; the present model was adopted in 1940.

The New Rifle

The new FN rifle was invented by Dieudonne Saive, a Liege, Belgium, gunmaker. Its outstanding advantage is simplicity. It opens like a conventional shotgun, giving immediately access to all essential parts; there are no

(Continued on page 3, col. 2)

Atomic Treaty With U. S. Will Speed Our Expansion

OTTAWA (Staff) — Tremendous implications for Canadian industry were contained in the agreements on the exchange of atomic energy data signed with the U. S. this week.

Canada is to share in the development and construction of atomic generating stations to power the $25 million Distant Early Warning line. This move, designed to eliminate the cost of transporting conventional fuels to the inaccessible outposts that make up the line, will be followed by expanded Canadian participation in developing the peaceful uses of atomic energy.

At the same time, the new agreements provide an important loophole which may leave Canadian subsidiaries of U. S. firms in a favored position in competing for atomic energy development orders. The treaty allows these firms to use in Canada all the secret data developed by their U. S. parent companies in their research on the peaceful uses of atomic energy.

The agreements mean significantly increased self-sufficiency of the Canadian atomic energy program and eventual entry by Canada into the super-complicated process of turning uranium ore into fissionable metal fueling atomic power generators.

It is understood that a $2 million circuit is being put into operation at the El Dorado Mining & Smelting Ltd. refinery at Port Hope, which could advance uranium purification directly into fuel form — a stage further than had previously been attempted.

The new U. S. - Canada agreements provide for transfers of equipment, research findings, testing facilities, and some atomic materials. Canadian officials are stressing that the resultant flow will definitely be a two-way proposition.

Exchange of Information

The newly-signed treaty calls for the exchange of both classified and unclassified information, including all phases of reactor development, industrial applications, and the problems of health and safety.

While the contemplated arrangement forbids exchange of information on the development of submarine, ship, aircraft, and "certain power reactors primarily concerned with military uses," the door has been left open for exchanging data "in furtherance of the joint Canada-U.S. defense effort in the development of an early warning radar network."

"It is agreed that neither of the parties to this agreement will exchange restricted data on any specific production, experimental power, demonstration power, and power reactor, unless that type of reactor is being operated currently by the other party, or is being considered seriously for construction by the other party

(Continued on page 2, col. 5)

Fast-Growing Petrofina Moves into the Maritimes

MONTREAL (Staff) — Fast-growing Canadian Petrofina Ltd. is extending its operations into the Maritimes for the first time.

The latest move will provide the company with about 400 retail outlets in the Maritimes under a supply agreement with Superline Oils Ltd. and Super-Service Stations Ltd., wholly-owned subsidiaries of United Service Corp.

These companies now will distribute the branded petroleum products of Canadian Petrofina. Changeover and station reidentification will take place about Sept. 1.

Canadian Petrofina presumably reached agreement with United Service Corp., which recently was acquired by W. C. Pitfield & Co. and associated interests.

At the same time, Canadian Petrofina announced that the company has acquired 12.5 acres in North Halifax for the establishment of a fully integrated marine terminal to supply requirements of the new retail outlets. These are chiefly in Nova Scotia but also cover New

(Continued on page 2, col. 2)

From B. C.: A Blast for Ottawa

Bennett Labels Columbia Tactics 'Interference'

By MICHAEL BARKWAY

VICTORIA (Staff) — Premier Bennett of British Columbia told The Post here that "Ottawa interference" had spoiled his plans for attracting U. S. industry to British Columbia by the offer of cheap power.

He claimed that the proposed diversion of the Columbia River into the lower Fraser was quite impracticable; and stated that major dams on the Columbia like Mica Creek could never be built by Canadians.

"We'll have to let Americans build the dams," he said, "It's the only way of getting them built. But we'll be able to collect cheap power in return for downstream benefits; and we'll tax them forever."

Mr. Bennett contended that his deal with Kaiser Aluminum Co. for development of a damsite at the foot of the Arrow Lakes would have brought U. S. industry into B. C. to use the 20% of power which, he claims, he would have got back from the United States by way of downstream benefits. He was on the way to getting an American recognition of the idea of paying for downstream benefits from storage in Canada, he said. But Ottawa interference had upset it all, he asserted.

The Federal Government has stopped this deal as a sell-out of Canadian and British Columbian interests.

On the proposal to divert the Columbia River into the lower Fraser below Revelstoke, which is now under engineering study, Mr. Bennett stated categorically that it was out of the question. Since that was so, he said, what could Canada do? Canadians would never dam the Columbia at Mica Creek, he said. We would have to let Americans do it; but we could make a good deal to collect cheap power from them, and we could tax them "forever."

Mr. Bennett also blamed Ottawa for the fact that neither Aluminum Co. of America (which wanted to use the headwaters of the Yukon to run a smelter at Skagway, Alaska), nor Reynolds Metal Corp. (which at one time proposed to share in Frobisher's planned development at Taku Inlet in Canada) were going ahead with the scheme. His idea all along, he said had been to bring these companies into partnership with Frobisher on the Taku development But "Ottawa interference" had stopped both deals, he claimed.

The Federal Government has effectively blocked the B. C.-Kaiser Corp. power deal by newly tightening its control over international rivers. Passage of a bill requiring anyone (including provincial governments) to obtain a license before constructing dams in Canada on rivers flowing into the U. S. was aimed primarily at the Kaiser proposal. The U. S. interests had negotiated a

(Continued on page 2, col. 4)

PRICES

(SEE ALSO TREND OF BUSINESS P. 17)

Sawn lumber in short supply with demand good, prices up $5-$10 per 1,000 bd. ft. wholesale, averaging 3%-4%. Main reason: light winter cutting in Eastern and Western Canada. Plywoods firm, with good demand.

Coffee continuing firm with increases up to 3c lb. retail for lower-price brands. Higher price varieties holding steady so far.

Zinc up ½c lb. reflecting settlement of auto negotiations in U. S., firm demand.

Hides in good demand with some price increases reported. June kill running slightly ahead of last year.

Cow bellies for low-price leather goods up about 2c at 20c-22c following extensive export sales, steady demand. Other leathers running steady with demand firm.

Salmon running about 5c lb. ahead of last year for East and West Coast catch with first runs light and demand firm.

Dressed hogs firm, up about 2c lb., sparked by pork loins up about 6c lb. wholesale.

Titanium Made By Shawinigan Passes Tests

OTTAWA (Staff)—Preliminary tests by government scientists have shown that titanium produced by Shawinigan Water & Power Co. pilot plant at Shawinigan Falls, Que., is as good as any made in the world today.

The successful titanium production could mean that Canada has taken the world lead in developing a cheap process for making this defense-essential material.

As the domestically produced titanium is living up to all expectations, final decision for government backing of the building of a full commercial cell at Shawinigan Falls is expected before the end of the year. No cost figures are available, but it is understood the production price is well below the $4.50/lb. current U. S. price.

Shawinigan uses a continuous electrolytic reduction process, using slag from Quebec Iron & Ti-

(Continued on page 3, col. 6)

Fundy Project Would Put Moon In Man's Service

OTTAWA (Staff)—Harnessing of the shifting tides of the Bay of Fundy to produce electric power has moved a significant step closer to reality.

This week the U. S. Senate Foreign Relations Committee approved a resolution to authorize a $3 million survey of the economic feasibility of the Passamaquoddy tidal water project between Maine and New Brunswick. President Eisenhower has already recommended an initial expenditure of $1 million to start the study.

Canada is not sharing immediately in the financial costs of the survey, to be undertaken by the International Joint Commission. But it's understood that present arrangements call for Canada to reimburse half the survey costs to the U. S. if and when the project has been completed.

The Canadian section of the I. J. C. will help keep a liaison officer with the U. S. teams and will carry out an independent study of the project's effects on the area's sardine population, and on the movement of plankton, an important sea food for herring.

The Passamaquoddy Tidal Power Project, as it was originally proposed in the 1920's, involves damming Passamaquoddy Bay on the Maine-New Brunswick border, as well as Cobscook Bay, in Maine. These bays are arms of the Bay of Fundy, near the mouth of the St. Croix River, which runs between the U. S.-Canadian boundary.

Power would be generated by utilizing the great tidal range in the Bay of Fundy through the controlled flow between the two basins. In 1948, the International Joint Commission was instructed "to report on the scope of the investigation that would be necessary, together with the estimated cost thereof, to enable the Commission to report whether . . . plans . . . for using these waters is practicable, and desirable from a point of view of public convenience and necessity."

The I. J. C. report was never made public, but The Post understands it was estimated an outlay of $3.9 millions would be required to properly determine the

(Continued on page 2, col. 4)

New Finance Firm Plans Loans On Oil Reserves

A new company Canadoil Production Finance Ltd., has been formed to make production loans to oil firms on the security of proven oil reserves.

First loan by the new company is being made to American Northland Oil Co., a California company with interests in several Alberta fields. Together with its subsidiary Wainwright Producers & Refiners Ltd., the company has more than 6 million bbl. of proven oil reserves at Wainwright, Alta.

Company officers explain that under present conditions, oil companies in Canada may secure inexpensive production loans from the chartered banks if the rate of repayment meets the bank's requirements (usually three years or less). Alternative arrangements can be made with other oil companies but it's claimed that these generally involve the giving away of a substantial share of the reserves in one or the other.

Canadoil's purpose is to provide a type of secondary banking and fill the gap between these extremes by furnishing funds at standard interest rates in return for a reasonable royalty on future production.

In its first operation, Canadoil has purchased from American Northland (Anoco) a $648,000 secured promissory note. This has been assigned to a trustee, unit-

(Continued on page 2, col. 5)

Gas Drills Move Out in Lake Erie

Encouraged By Successful Well Two Miles Off-Shore From Tilbury Field, Cons. West Petroleum Goes Farther Out — Other Firms Drill

By W. L. DACK

Natural gas interest is literally bubbling to a new high in Ontario. Underwater! And even without Jane Russell.

This week:

—Two drilling programs were under way, one in Lake Erie, the other in lake St. Clair.

—Three more projects were being planned, one for Lake Erie, two for Lake Huron.

Encouraged by the possibly significant fact that the farther out they go well potentials are increasing. Consolidated West Petroleum, pioneer in off-shore drilling, has decided on a bold stepout venture three miles out in Lake Erie, a mile beyond the last successful well.

A successful well last week, one mile farther inshore, had an open flow potential of 2.75 million cu. ft. a day. This makes the 14th successful well in what might be an extension of the Tilbury gas field. Total potential output is considered around 15 million cu. ft. daily. The company will drill eight off-shore wells this season.

This week also Lake St. Clair Gasfields Co. — latest off-shore drilling venture — was down some 1,000 ft. in its first drilling project about ¾ of a mile out in Lake St. Clair. The company plans to drill at least 10 wells this season in a 5-mile, 87,000-acre streteh of water along the south and east shore of the lake. In another couple of weeks the potential zone of around 2,300-2,500 ft. should be reached. Frobisher Ltd., through a subsidiary Geoil Ltd., has a 34% interest in the Lake St. Clair syndicate.

Drilling is expected to get under way soon by another group working out in Lake Erie, off Howard township. Two separate drilling groups — one representing a substantial U. S. oil producer — are now finalizing plans to start off-shore drilling operations in Lake Huron.

With a waiting market for everything they produce and a gradually rising price trend for gas, exploration incentive was never brighter.

Since land under water right out to the international boundary is Crown land, leases or exploration licenses must be secured from the Ontario Dept. of Mines. These are arranged for on an annual rental fee plus royalty on all production; 2c per mcf on gas and 10% on oil.

Inside News

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We Join Cuba Oil Search

The oil exploration drive outside this continent by established Canadian oil companies is picking up steam. A group of companies including several in the Pacific Petroleums group is now embarked on a large exploration program on the island of Cuba.

The companies with headquarters at Calgary are: Canadian Atlantic Oil Co., Pacific Petroleums Ltd., Charter Oil Co., Blue Crown Petroleums, Gas Exploration Co. of Alberta, Poplar Oils, Canadian American Royalties, Cancoll Oil & Gas Co., and Canadian Pipelines & Petroleums.

Associated also in the venture is Sunray Mid-Continent Oil Co., Tulsa, which has operated in partnership with Pacific Petroleums and Canadian Atlantic for many years in Canadian ventures.

Together these firms have acquired interest in more than four million acres in Cuba, where a major oil search is now under way. A number of wells have been drilled on the island and high quality distillate and oil is being produced. Several refineries are being either built or projected by major companies there.

First well drilled by the Canadian companies in the Jatibanico district of Camaguey province, in the geographical centre of the island, encountered an excellent tertiary basin. Plans are under way to deepen this well past 4,500 ft., which was the limit of the first rig.

The Canadian group acquired its main holding from the Cuban Oil Corp. of Delaware and Compania Petrolera Norita, S.A. of Cuba.

U.S. Newsprint Race Keeps Demand Ahead Of Supply

MONTREAL (Staff) — Consumption of newsprint in the United States may not be able to maintain its recent feverish pace unless more North American tonnage is diverted from overseas markets, according to sources here.

It was up a startling 7.9% in May, and 6.6% for the first five months of 1955. If that rate were to be kept up for the rest of the year, it would mean a gain in consumption of around 400,000 tons over 1954.

But it appears that there is just not that much more paper available. Canadian mills have been humming at an average of 101.5% of rated capacity to date, and U. S. production is up nearly 36% from a year ago. If overseas exports are not disturbed, one source estimates that there may be room for a gain of 300,000-350,000 tons in the U. S. for the year, but no more.

The American Newspaper Publishers Association says that inventories of its reporting newspapers at the end of May were the lowest since April, 1950. They can't go much lower.

That leaves a diversion from overseas exports as the only means of filling the gap, if there is one. Thus it could mean that spot sales of Canadian and U. S. newsprint to some countries will start dropping.

The size of the gain in consumption below the border has surprised nearly everybody. It's been generated by a sharp increase in newspaper advertising (up 7.9% in 52 cities to the end of April) and another increase in circulation.

Publishers have dug deeply into stocks on hand, and some of them are now getting a little worried. There's apparently no serious alarm so far, but if inventories were trimmed any further in many cases they would be getting dangerously low.

Most earlier estimates have been knocked into a cocked hat. Even as recently as March, for instance, the U. S. Department of Commerce predicted that U. S. newsprint consumption this year would be up 125,000 tons from 1954. But by the end of May — with the year not even half over — the booming U. S. economy had pushed it up by 170,000.

Currently, newspapers are approaching a usual seasonal low in consumption, which may ease their inventory positions. But the big question remains: will the increase continue at its recent rate?

In any event, 1955 shapes up as showing the biggest increase in consumption in several years. Between 1950 and 1954, for instance, the total gain was only 226,000 tons.

Stock Market Highlights

Industrials

Algoma Steel continues its push upward, touching $83 a share before easing off slightly. Stock had sold at $68 a week earlier, $49 in January.

British American Oil bounces up $2 to 30¼, eases back to $30.

Canadian Petrofina touches $25⅛, up $1½ in week. Negotiations between company and Western Leaseholds continuing and some reports are that announcement expected shortly. If deal jells exchange basis rumored three Leaseholds for one Petrofina, but Leaseholds stock selling at midweek for only $6.45.

Canadian Chemical & Cellulose touches $14 in spurt this week. Price week earlier $11¼.

Mines

Consolidated Denison moved up to new peak of $13 at midweek on announcement of 5,000 tons-a-day milling rate.

Algom, Gunnar, Pronto move sharply forward on reported overseas and U. S. buying.

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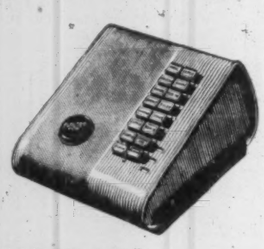

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British Columbia Forest Products Ltd. (Vancouver)—W. W. Holland, vice-president, pulp; T. E. Burgess, vice-president, production; A. G. Rankin, vice-president, finance; R. C. Andrews, comptroller.

Calvert Distillers Ltd., (Amherst-burg, Ont.)—W. G. Nairn, Manitoba representative.

Canadian Cancer Society (To-ronto)—K. A. Gardner, H. T. O'Neill, A. R. Winnett, W. E. Huckvale, Arthur Kelsal, directors.

Canadian National Express (Mont-real)—R. H. Joslin, superintendent, Toronto division.

Canadian National Telegraphs (Montreal) — Richard C. Seagrave, administrative assistant.

Canadian Petroleum Association (Calgary)—R. A. Cruickshank, vice-chairman, board of governors; S. Douglas Turner, manager, Alberta division.

Canadian Standards Association (Ottawa)—J. S. Cameron, of North-ern Electric Co., president; Dr. J. M. Thomson, Ferranti Electric Co., 1st vice-president; R. S. Eadie, Do-minion Bridge Co., 2nd vice-presi-dent.

Canadian Transit Association (To-ronto — S. E. Preston, Kitchener, president; P. G. McAra, Regina, vice-president; J. G. Inglis, Toronto, treasurer; W. H. Furlong, Windsor, honorary counsel.

Canadian Welfare Council (Ot-tawa)—Ralph J. Albrant, secretary, community chests and councils division.

Carling Breweries Ltd. (Waterloo, Ont.)—R. A. Bovaird, Western On-tario sales manager; S. C. Cara, district sales manager, Toronto and Hamilton area; Laurier Pare, plant manager at Tecumseh, Ont.

Chartered Institute of Secretaries (Toronto Chapter)—Dr. W. P. Ger-ald, Connaught Medical Research Laboratories, chairman; P. G. J. Kerr, Maclean-Hunter Publishing Co., vice-chairman; C. B. Bell, secre-tary-treasurer; V. F. Bowman and R. W. Matthews, members of coun-cil.

Chrysler Corp. of Canada (Windsor)—J. A. Cooper, director wage and salary administration; G. K. Cowan, director education and de-velopment.

Consolidated Mining & Smelting Co. of Canada (Montreal)—P. T. Bloomer, general superintendent outside mines; R. M. Porter, operat-ing superintendent, Sullivan Mine; J. J. McKay, property superintend-ent, Tulsequah Mines Ltd.; J. C. MacLean, property superintendent, H. B. Mine.

Dale Estate (Brampton) — Doug-las Dickson, director.

Dalite Furniture & Store Fixtures Co. (New Toronto, Ont.) — R. H. Irving, sales manager, furniture division.

Dominion Stores Ltd. (Toronto)— T. G. McCormack, president and director; C. C. Hutchinson, vice-president, development and expan-sion.

Dominion Textile Co. (Montreal) —Ross Clarkson, director.

Enterprise Sales & Distributors Ltd. (Toronto) — Arthur J. Dawes, general manager.

General Foods Ltd. (Toronto) — E. C. Sullivan, brokerage sale man-ager for Canada.

Gurney Products Ltd. (Toronto)— Harris & Roome Ltd., Halifax, dis-tributors for Nova Scotia and Prince Edward Island of Gurney line of ranges, waterheaters and space heaters; Ward Johnson Ltd., Regina and Saskatoon, distributors for Sas-katchewan of Gurney electric ran-ges, combination ranges, solid fuel ranges and oil ranges; Empire Brass Mfg. Co., (Metals Ltd. Division) Calgary and Edmonton, distributors for Alberta of complete Gurney line of ranges, water heaters and space heaters.

Koehring-Waterous Ltd. (Brant-ford, Ont.)—M. O. Messenger, vice-president and general sales manager.

MacLaren Advertising Co. (To-ronto)—E. V. Rechnitzer, president; James Ferres, senior vice-president and managing director; C. E. Brown, F. Percival Gill, W. F. Harrison, Scott Stockwell, directors.

McConnell Eastman & Co. (Lon-don, Ont.)—R. M. Williams, head of public relations department, Van-couver office; Stanley C. Bowdler, copy chief Vancouver office.

Moore-McCormack Lines (Can-ada) Ltd. (Montreal) — William J. Jones, manager; Joseph M. Fedor-kow, manager, Toronto office.

Motion Picture Centre Ltd. (To-ronto)—Miss M. G. Latimer, secre-tary-treasurer.

Nash Motors of Canada Ltd. (To-ronto) — R. J. Orr, general sales manager; Reg. A. Gibson, plant man-ager; G. E. Worley, Toronto zone manager; J. A. Henry, assistant zone manager, Toronto zone; D. Lloyd Gibson, district manager, Northern and Eastern Ontario; Gar-net R. Gunn, district manager, Southwestern Ontario; S. C. Brown, parts and service representative, Northern and Eastern Ontario.

Ontario Department of Highways (Toronto)—Arthur M. Toye, bridge design engineer.

Quebec Hydro-Electric Commis-sion (Montreal) — J. A. Savoie, president; Leonard Prefontaine, commissioner.

Paul Revere Life Insurance Co. (Hamilton)—E. N. Dennison, super-visor Canadian agencies.

Personal Finance Co. of Canada (Toronto) — Maurice Laflamme, manager, Hull No. 2 office; Real Surprenant, manager, St. Hyacinthe; Gilles Pinel, manager Grand' Mere.

Provincial Bank of Canada (Mont-real)—Leo Lavoie, assistant general manager.

Rolls - Royce of Canada Ltd. (Montreal) — David Boyd, works manager; J. K. Grundy, production manager; A. G. Morrall, assistant to general manager; A. P. Smibert, secretary and assistant treasurer; A. M. Scott, sales manager, aero divi-sion.

Royalite Oil Co. (Calgary)—C. U. Daniels, chairman; Ray Althouse, president.

R. W. Stanton Sales Co. (Toronto) —representative Canadian Westing-house Company's Micarta thermo-setting plastic products.

Standard Tube and T. I. Ltd. (Woodstock, Ont.)—John D. Judge and James G. Thompson, directors.

Security Storage Co. (Winnipeg) —W. J. McKeag, managing director; continues as president, McKeag Furniture Store Ltd.

Wm. Stairs, Son & Morrow Ltd. (Halifax)—E. G. Jarvis, director.

Stratoflex of Canada Ltd. (To-ronto) — Representative distributor for Canada for Webster Electric Co. (Racine, Wis.) for oil hydraulics division.

Trident Drilling Co. (Calgary)— H. R. Shannon, vice-president and general manager.

United Co-Operatives of Ontario, Grain Marketing Division, (Chat-ham)—Howard Pitz, Muirkirk, Ont., manager.

Hiram Walker & Sons Ltd. (Walkerville, Ont.) — James D. Green, export manager.

Winnipeg Stock Exchange (Win-nipeg)—R. D. Baker, R. A. Copland, Peter D. Curry, A. B. Flett, W. E. Gower, E. A. Nanton, S. B. Phipps, G. H. Sellers members of Board of Governors.

Winchester Electronics Co. (Wind-sor, Ont.)—Robert Hemstead, presi-dent, Wayne Shapiro, vice-president; Robert Dishall, secretary; A. J. Kernerman, treasurer.

Resignations

Coro (Canada) Ltd. (Toronto) — Charles R. de Rimsingeur, presi-dent; will be returning to United States.

Man In Moon Going to Work?

(Continued from page 1)

project's feasibility. Improve-ments in surveying techniques later cut the estimate to $3 mil-lions.

No official cost estimates of Passamaquoddy power have ever been released, but a basic figure of 17 mills has been mentioned. This is about equal to cost of power generated in coal-fed steam generating plants.

One difficulty is that power peaks move according to moon-controlled tides. This means that the peak works on a 25-hour day, with maximum output an hour later each day. It is thought that the only economical way to de-velop the tidal power would be to feed into a giant power grid which includes other power sources, thus balancing out tidal effects.

In the U. S. the new resolution for the survey was presented by Republican Senators Margaret Chase Smith and Frederick Payne, both from Maine. The project has considerable political backing in the U. S., but its high cost will mean much careful study before any construction begins.

Cdn. Petrofina Spreads East

(Continued from page 1)

Brunswick and Prince Edward Island.

In addition, the company has marine terminals being erected at Chatham, N.B., and Halifax. It also is building additional fa-cilities to an existing terminal at Sydney, N.S.

Superline and Super-Service will abandon the branded name of their products "Superline" and will handle branded products of Canadian Petrofina from gas sup-plied by the Montreal refinery of the company. The $28-million plant will be completed about Sept. 1.

The company's automotive petroleum products are marketed under the brand name "Fina."

Canadian Petrofina pointed out that it does not intend to remain static in the market but will prob-ably add other retailing facilities to its network later.

Petrofina expects to blanket Quebec and Ontario with about 925 retail outlets by the end of the year. This would bring its retail outlets to about 1,325 with the latest move.

Formed two years ago, Petro-fina is associated with La Com-pagnie Financiere Belge des Petroles, which operates refining and marketing companies in a dozen countries and exploration and development companies in four others.

Bennett Blasts Ottawa Tactics

(Continued from page 1)

contract with the B. C. Govern-ment to build a dam on the lower Arrow Lakes of the Columbia River to feed a power plant at Bonnyville, Wash.

Ottawa felt the financial settle-ment offered by Kaiser was not a sufficient return for giving up potential Canadian power and held little hope that FPC approval for the export of power from the U. S. would be granted.

Next step, from Ottawa's point of view, is to decide what bene-fits Canada should receive from the U. S. for power generated from Canadian water. The Inter-national Joint Commission is now preparing recommendations for this general principle, and work-ing out alternative power schemes along the Columbia River. A Canada-U. S. treaty covering downstream benefits is expected to be eventually negotiated

Atomic Treaty With U. S. Will Speed Our Expansion

(Continued from page 1)

as a source of power or as an intermediate step in a power pro-duction program. There will, however, be exchanged such gen-eral information on design and characteristics of various types of reactors as is required to permit evaluation and comparison of their potential use in a power production program," the agree-ment states.

Geology, exploration techni-ques, chemistry and technology of extracting uranium and thorium from their ores and concentrates, production technology, and tech-niques of purification and fabri-cation of uranium and thorium compounds and metals, including design, construction and opera-tion of plants, are among the techniques to be exchanged im-mediately.

Other sharing of ideas includes knowledge about "special nuclear materials." There is also an im-portant provision for the recipro-cal supply of "research mater-ials," when they are not available domestically.

Main benefit to Canada from this will be the supply of heavy water. Some heavy water is now produced here, but not enough to fill research needs. The agree-ment prevents the U. S. from giving Canada data on the manu-facture of heavy water, until this country decides to develop its own full-scale heavy water manu-facturing program.

The new relationship between the two countries is not expected to affect basic design of the power reactor now being developed at Chalk River, although some minor changes are planned and the entire project has been speed-ed up.

The Canadian model uses heavy water as its moderator and light water (the flow of the river) as the cooling agent. The new agree-ments do not require any change in Canadian security regulations.

Provision is made for each government to make available atomic information necessary to the development of defense plans. A separate clause allows the interchange of "the evaluation of the capabilities of potential enemies in the employment of atomic weapons."

The treaty very definitely pro-hibits "transfer by the United States or Canada of atomic weapons or special nuclear mate-rial."

Plan Loans On Oil In Ground

(Continued from page 1)

ized and offered to investors to-gether with royalty units.

Investors are being offered 5% Canadoil production note certifi-cates, Anoco Series A, dated June 15 and maturing June 15, 1963. Price is par. Each certificate pur-chaser receives a bonus of one Canadoil production royalty in-come unit for each $1,000 certifi-cate.

Proceeds of the offering, being made by Flood & Co., Montreal, are deposited with the trustee. Funds will be released to Anoco only on the security of wells certified as producers by an inde-pendent geologist. First loan to Anoco will be $69,120 against four producing wells with 319,148 net bbl. of recoverable oil remaining. As subsequent wells are certified as producers and placed under the terms of the indenture, $27,-000 per well will be provided.

Anoco must make monthly payments to the trustee, ranging from a minimum of 60c per bbl. to a maximum of 90c, depending on the price of oil.

Canadoil has received a 6½% gross overriding royalty on all production from wells placed un-der the terms of the indenture. The royalty interest will con-tinue over the life of the wells. The royalty has been divided in-to 850 units, with one unit going with each $1,000 certificate pur-chased.

OTTERBURN PARK, QUE. Munici-pality has sold $101,000 3%-4% bonds due 1956-75 to Crédit Anglo-Francais, Ltée. at net cost of 4.136%. Net funded debt $50,262 at Dec. 31, 1954, population 2,150.

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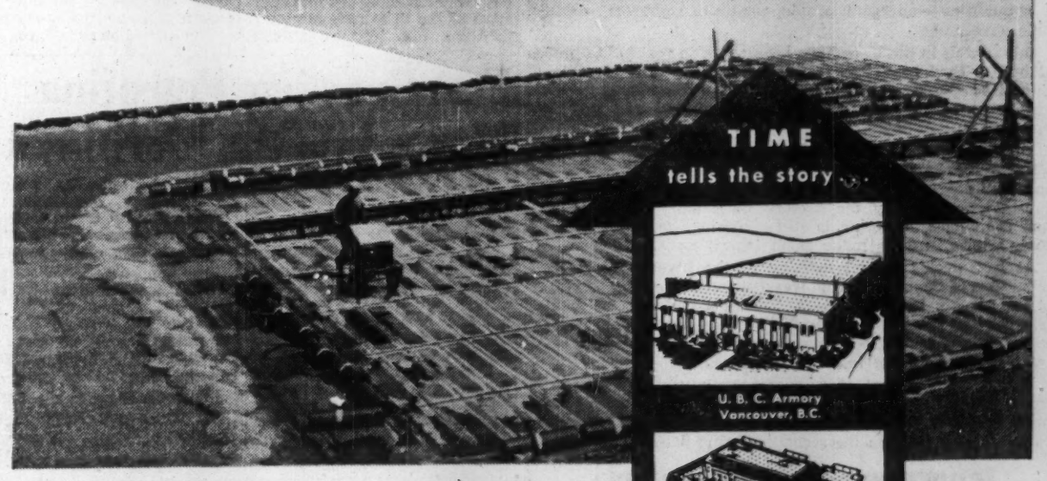

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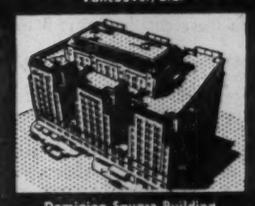

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Oil Field Odyssey

Socony Shows "Oil Success" Can be Multi-million Project

CALGARY (Staff) — Most people probably regard success in the oil business as a simple business of drilling a few wells and having a little luck. But it seldom works out that way in practice.

A major oil company coming in to Canada figures that it must be prepared to spend millions of dollars each year on a continuous basis with probably 10 years required to reach the pay-off stage.

A case in point is that of Socony-Vacuum Oil Co. of Canada, a subsidiary of a company of similar name in the U. S. Socony officials aren't saying exactly how much the company has spent in Canada but it would be safe to say that it is in the $30 millions to $40 millions bracket. And funds are being poured out at an ever-increasing rate.

Socony has had probably a better-than-average oil discovery record than other U. S. oil companies operating in Canada The company discovered the Pembina field where it has a 50% interest in 49,300 acres, about 90% of which is expected to be productive. The company has 10 medium crude discoveries and 210 oil wells to its credit in the Fosterton area of Saskatchewan where production is currently about 9,000 to 10,000 bbls. a day. Duhamel and other areas give about 2,000 or 3,000 bbls. of oil a day.

Management is satisfied with the record of success even though 100 dry holes have been drilled at a cost of $10-millions on a huge acreage secured on farmout from Sohio south of Regina. Things like that are to be expected in the search for elusive oil.

Long-Term Returns

With a big slice of Pembina and a great potential output assured at Fosterton in Saskatchewan, does Socony-Vacuum stands to make a big early return on its huge investment in Canada? Far from it. Oil discovered to date assures the management of its money back. But real success — from a dollar standpoint — is still far in the future.

On the basis of its present rate of discovery, Socony expects that it will still be pouring out additional funds which can't start to be recovered from production until the year 1965. At that time, expenditures will be balanced by income and the company can finally look forward to a return on its investment.

All U. S. companies are not in as fortunate a position as Socony. Sohio spent huge sums on the search for oil in Saskatchewan, never did find anything worthwhile before monetary considerations required a partnership with Socony.

Many of the big companies figure, however, that chances of success in Western Canada are growing rather than diminishing as they explore their acreage spreads. The dry holes are far from lost money irrespective of any tax write-off advantage. They provide the structural information which will permit further investigations for oil to be conducted with still better chances.

If it weren't for certain earlier information, for instance, a field like Pembina, Canada's greatest, might not have emerged for years hence. Obviously the Canadian oil industry without the support of U. S. know-how and funds could never have reached its present peak of production with its attendant benefits to the Canadian economy.

Auto Production

	Week ending June 18	To Date
CARS		
Chrysler	2,042	50,070
Ford	4,405	64,229
General Motors	3,974	94,898
Nash	88	1,312
Studebaker-Packard	103	4,886
Hudson	18	841
Totals	10,630	216,236
Previous Week	10,611	.....
TRUCKS		
Chrysler	320	4,524
Ford	933	13,508
General Motors	872	18,768
International	224	4,044
Studebaker-Packard	...	242
Totals	2,349	41,086
Previous Week	2,389	.....

New Army Rifle To Bring Big Machine Tool Orders

(Continued from page 1)

apertures through which the mechanism can be exposed to the elements.

Its other big selling point is versatility. The FN rifle can be used as an infantry weapon, a submachine gun, and a machine gun. The weapon is gas operated, with the spent gas of the exploded cartridge automatically ejecting it and forcing another shell into firing position. The breech block is mechanically locked before firing. It fires 60 aimed shots a minute and is accurate up to a range of 1,093 yards.

The weapon claims many advantages over the single-bolt Lee-Enfield. It weighs almost a pound less (though it is two inches longer) and has a muzzle velocity of 2,800 ft. per sec., compared to the former rifle's 2,440 ft. per sec.

The FN rifle will use the U. S.-developed T-65 rimless cartridges now being turned out in the Canadian Arsenals plant at Quebec City. This bullet has been adopted as the standard NATO shell. It's hoped that all side arms will eventually be standardized in the NATO family; at present there are seven varying makes.

Britain and Belgium have already adopted the rifle with Holland and France expected to follow soon. The Australian army is also using the rifle.

The new rifle will necessitate a change in Canadian Army drill. Because its cocking handle is on the left — instead of the right as with the Lee-Enfield — the slope arms movement will have to be eliminated.

Cdn. Waterman Seeks More U.S., U.K. Namesake's Stock

MONTREAL (Staff) — Shareholders of L. E. Waterman Pen Co. will meet June 30 to consider raising authorized common stock capitalization from 200,000 to 300,000 shares — a move made necessary by plans to acquire the minority interests in the U. S. and U. K. Waterman companies.

The Canadian firm, directly or indirectly, already has stock control of the other two — Waterman Pen Co., of New York, and Waterman Pen Co. (England). The present plan is aimed at consolidating the world-wide organization, according to President J. E. Savard.

United States interests will still have a large financial stake in the group, it appears.

L. E. Waterman Pen, the Canadian company, now owns a 51% interest in Waterman of New York. This was acquired last November, from the Waterman family, and was paid for by issue of 32,000 shares. To buy the other 49%, it's understood that an additional 29,000 shares will now be issued.

This means the U. S. group will end up with 61,000 shares of L. E. Waterman, and the latter, which now has 157,000 shares outstanding, on completing this deal will have 186,000 outstanding.

How many more shares will be issued to acquire the minority interest in Waterman of England is not yet certain. L. E. Waterman now owns a 17.2% interest in the British concern, while Waterman of New York holds 70%, for a total of 87.2%.

The Canadian company plans to acquire the other 12.8% by offering stockholders cash or stock — 21 shillings per share, or one L. E. Waterman share for each four Waterman of England shares.

Authorized capitalization of the Canadian firm must be raised because there also are options outstanding on 27,000 shares at $10 each, to key personnel.

Corporation Bonds

(Supplied by Investment Dealers' Association of Canada)

June 21, 1955

Public Utility Issues	Int. Rate %	Due	Bid.	Ask.	Prev. Week Bid
Alg. Cen. H.B.R.	5	'59	150¼	153¼	150
Bell Tele	3	'77	92¼	95¼	92¼
Do.	4¼	'67	106¼	109¼	106¼
Braz. Traction	4½	'70	82	85	82
Do.	4½	'71	82¼	85¼	82¼
B. C. Electric	3¼	'67	96¼	99¼	96¼
Do.	3½	'75	96	99	96
Do.	3½	'69	100	103	100
Do.	4½	'79	104	107	104
B. C. Tele	4½	'75	104¼	107¼	104¼
Gat. Power D.	3¼	'70	97	100	97
Gt. Lakes Pwr.	4¼	'69	100¼	103¼	100¼
Maclaren-Quebec Power	3	'69	96	99	96
Mex. Lt. & Pr.	5	'75	85¼	88¼	85¼
Nat. Lt. & Pwr.	4¼	'61	99	102	99
North Que. Pr.	4¼	'67	99	102	99
Power Corp.	3¼	'67	97¼	100¼	97¼
Quebec Power	3	'62	98	101	98
St. Maurice Pr.	3¼	'70	96	99	96
Shaw. W. & Pr.	3	'71	96	99	96
Do.	3¼	'73	98¼	101¼	98¼
Wpg. Electric	3½	'71	98¼	101¼	98¼
Industrial Issues:					
Abitibi Pr. & P.	3½	'67	99¼	102¼	99¼
Acadia-Atlantic Sugar	4	'74	100	103	100
Alaska P. & C.	4½	'66	99¼	102¼	99¼
Aluminum Co.	4½	'73	103	106	103
Barvue Mines	5s	'56	99¼	102¼	99¼
Bathurst P. & P.	5½	'73	103¼	106¼	103¼
Bowater's Nfld. P. & P.	3½	'68	103	106	103
B. C. For. Pr.	4½	'66	100	103	100
Burns & Co.	4	'63	101	104	101
Can. Bread	4½	'67	99	102	99
Can. Steamship	4	'66	99	102	99
Can. Brew.	4½	'79	104	107	104
Can. Canners	3½	'70	98	101	98
Can. Celanese	3	'62	98	101	98
Can. Chemical	5½	'71	99¼	102¼	99¼
Can. Oil	5	'72	104	107	104
Can. West. Lum.	4	'62	100	103	100
Cockshutt Plow	4½	'65	94	97	94
Columbia Cell.	5	'68	99¼	102¼	99¼
Consol. Paper	3½	'67	100	103	100
Dom. Fd. & Stl.	4½	'69	103¼	106¼	103¼
Dom. Stores	5	'72	102¼	105¼	102¼
Dom. Tar & Ch.	5	'67	103	106	103
Dryden Paper	4½	'74	102	105	102
T. Eaton Accept.	4½	'74	104	107	104
E. B. Eddy	4	'74	99	102	99
Elk Falls Co.	5	'75	102	105	102
Fed. Grain	4	'64	98¼	101¼	98¼
Gen. Motors Ac	4½	'69	104¼	107¼	104¼
Gt. Lakes Pap.	3½	'67	96¼	99¼	96¼
Gt. Plains Dev.	2-4	'65	146	149	146
Husky Oil	5	'69	111½	114½	109½
Imp. Tobacco	3	'70	93	96	93
Imp. Oil	3½	'75	100	103	100
Indust. Accept.	5½	'74	101	104	101
Irving Oil Co.	5½	'67	102½	105½	102½
Loblaw Groc.	4½	'73	102¼	105¼	102¼
Maple L. M.	3½	'63	98¼	101¼	98¼
Massey-Harris	5	'67	102½	105½	102½
McColl-Front.	3	'71	94	97	94
Mercury Mills	4	'63	60	63	60
Mon. Knit.	4½	'71	74	77	74
N. S. Steel Coal	3½	'63	95½	98¼	95½
Page-Hersey T.	3½	'65	96¼	99¼	96¼
Price Bros.	3½	'66	99	101½	99
St. Law. Corp.	5	'72	103¼	106¼	103¼
Silverwood Dair.	4	'71	96½	99½	96½
Simpsons Ltd.	4½	'73	103¼	106¼	103¼
Simpsons-Sears	4½	'73	104	107	104
Steel Co. of Can.	2½	'67	94	97	94
Traders Fin.	5½	'69	104	107	104
Union Accept.	5½	'68	101	104	101
United Steel	4	'60	93	96	93
Un. Grain Gr.	3½	'70	93½	96½	93½
George Weston	4½	'68	103	106	103
CONVERTIBLE ISSUES					
Ajax Pete. Ltd.	5	'62	92	96	92
Atlas Steels	5	'67	104	107	104
Braz. Traction	4½	'71	82	85	82
B. A. Oil	3½	'61	148	152	140
Do.	3½	'63	112	116	112
B. C. For. Pr.	5	'62	125	129	120
Can. So. Oils	5	'61	92	95	92
Can Brew.	4½	'61	125	129	126
C.P.R.	3½	'66	112	115	112
Do.	4	'69	115	119	115
C. Leduc Oils	5	'63	82	92	85
Cockshutt Farm	5	'68	96	99	96
Dom. Magnes.	5	'62	109	112	109
Dom. Steel & C.	4	'61	99¼	102¼	99¼
Dom. Textiles	4	'65	98¼	101¼	98
Gen. Pete.	4½	'63	95	98	95
Jupiter Oils	5	'67	94	96	94
Kroy Oils	5	'67	97¼	100¼	97¼
New Concord D.	5½	'63	91	95	88
N. Sup. Oils	5	'64	98	101	98
North Star Oil	5½	'68	101¼	104¼	101¼
Pathfinder Pet	2-5	'62	63	73	65
Ponder Oils	5	'63	97	100	97
Scurry Oils	5	'64	96	99	96
Silverwood Dair.	5½	'72	128	..	117
Supertest Pete.	4	'70	103	106	102
Traders Fin.	4½	'69	126	129	124
Trans Empire	5	'66	95	98	95
Do.	5½	'67	98¼	101¼	98¼
West C. Brew.	5	'67	117	..	117

Mining Corp. Now Drilling In New Field

An airborne electromagnetic survey of an area in Northwestern Quebec has indicated a number of anomalies, and Mining Corp. of Canada's engineering and field staff has acquired large acreages there.

An agreement was made some time ago between Mining Corp. of Canada and International Nickel Co. whereby Inco agreed to conduct the airborne survey of Northwestern Quebec in an area which included the townships of Chazel, Clermont, Desmeloizes and Perron.

The only way to ascertain the importance of the anomalies is by doing further ground surveys to be followed by diamond drilling. Four drills are now working and a fifth will be added within 10 days.

Staff Changes

Chartered banks announce the following staff changes:

Commerce:

W. J. AINSLIE, accountant, City Hall, Toronto, to be special representative, New York.

E. W. ARMSTRONG, inspector, head office, to be assistant manager, Toronto.

E. C. AUSTIN, to be assistant manager, Toronto.

G. C. CHANDLER, accountant, Windsor, N.S., to be accountant, personal loan dept., Halifax, N.S.

G. B CURRIE, assistant general manager, Toronto, to be assistant general manager, head office, Toronto.

L. E. FERGUSON, to be accountant, Windsor, N.S.

M. F. JESSOP, inspector, head office, to be manager, Quebec, Que.

A. G. F. LITTLE, assistant manager, Crescent & St. Catherine, Montreal, to be assistant inspector, Regional Office, Calgary.

W. F MANNING, accountant, Robson District, Vancouver, to be manager, newly opened branch, Main St. & 29th Ave., Vancouver.

Look For It Here

June 18, 1955

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B. C. Electric	17	Man. Sugar	21
CNR	10	Nat. Grocers	22
Cdn. Cottons	38	P. W. Airlines	21
Cdn. Freezers	5	Prud. Assur. Co.	20
Cdn. Vickers	30	Paton Mfg.	13
Cont. Motors	5	Roy. Bk. of Can.	14
Cornwall Cann'g	29	Std. Mod. Tool	10
Craig Bit	25	Std. Paving	13
Crown Electric	5	Tip Top Canners	21
Davies Irwin	11		
MINES & OILS			
B. A. Oil	12	Pacific Pete	33
Broulan Reef	34	Peace River	25
Cdn. Admiral	34	Pickle Crow	33
Canam Copper	33	Pembina Oil	35
Cons. Denison	34		

Iroquois Gets Powerhouse Award

Iroquois Constructors Ltd. was awarded a $21,940,253 contract for construction of the Ontario section of the St. Lawrence Power Project, it was announced at midweek.

Participants in Iroquois are Foundation Co. of Canada, Angus Robertson, Pentagon Construction, Rayner-Armstrong, and Canadian Comstock.

Two U. S.-owned bidders put in figures lower than Iroquois' original bid of $23,337,454. The contract price was negotiated with Iroquois after "special attention to existing work loads of the bidders, breadth of their respective experience in this construction field and the vital importance of strict adherence to time schedules."

The low bid, by C. A. Pitts, general contractors, was $18,885,769.

Paul W. Matthews, director, bought 1,500 Fargo Oils common for holdings of 2,900 at the end of March.

United Oils Ltd. acquired 20,800 Federated Petroleums common for holdings of 986,971 at the end of April.

A. K. Roberts, director, sold 300 Giant Yellowknife Gold Mines common, reducing holdings to 100 at the end of April.

Howard Butcher III, officer and director, reports purchase of 300 shares of International Utilities for his wife's account which held 1,400 shares at the end of April.

N. E. Tanner, director, purchased 30,000 Merrill Petroleums common for holdings of 99,171 at the end of April.

C. Gordon Cockshutt, director, purchased 100 Minnesota & Ontario Paper Co., for holdings of 100 at the end of April.

A. B. Rose, director, purchased 200 Scurry-Rainbow common in March, 300 in April, and sold 300 in April leaving his holdings at 200 at the end of April.

C. F. H. Carson, director, bought 100 Hiram Walker-Gooderham & Worts common, increasing holdings to 500 at the end of April.

John F. Evans, an officer, bought 500 shares Aluminium Ltd., increasing his holdings at the end of April to 510 shares.

C. Gordon Smith, director, sold 2,000 Bailey Selburn Oil and Gas A shares reducing his holdings to 10,401 at the end of April.

T. F. C. Frost, director, bought 800 shares of Calgary & Edmonton Corp., increasing his holding to 27,000 at the end of March.

Canadian Petrofina had 3,869,038 shares of Calvan Consolidated Oil & Gas at the end of April, acquiring 1,236,586 in March and 85,988 in April through share exchange.

James J. Statler, officer and director, bought 4,000 Canadian Atlantic Oil common in February and sold 4,400 in March, leaving his holdings at the end of March at one share.

George M. Black, Jr., officer and director, purchased 2,500 Canadian Breweries $1.25 cumulative convertible preferred in March for holdings of 2,500 at the end of the month.

Argus Corp. Ltd., acquired 50,000 Canadian Breweries convertible preferred for holdings at the end of March of 50,000.

Edward H. Laborde, officer and director, sold 100 shares of Canadian Homestead Oils in March, acquired 18,925 in April as a result of exchange or conversion, in April disposed of 750 to a trust and sold 1,000 shares, leaving his holdings at the end of the month at 64,575.

Wilbert H. Howard, director, sold 600 Canadian Petrofina participating preferred, leaving holdings at the end of April at 1,500.

Ralph S. Duns, officer, sold 640 Crown Zellerback Corp. common leaving holdings of 2,360 at the end of April.

R. O. Hunt, officer, purchased 4,400 Crown Zellerbach common for holdings of 5,400 at the end of April.

Ellis D. Slater, director, sold 200 Distillers Corp.Sea-Seagrams leaving holdings of 10,100 at the end of April.

Plan Two Giant U.S. Liners For Sea-Going Conventions

Would you like to hold your company's annual sales convention in mid-Atlantic?

That's the intriguing possibility raised by a U. S. hotelman, who has announced plans to build two giant transatlantic liners designed to cater to conventions as well as to individual travelers.

H. B. Cantor, president of New York's Governor Clinton Hotel and the Carter Hotels chain, said that construction will begin as soon as possible on two 1,250-ft. superliners, each with a capacity of 9,200 passengers and 1,800 crew members.

Estimated cost of the ships is $120 millions each, Mr. Cantor told The Post. As planned, each ship would have an 800-ft. runway with retractable smokestacks and vents, so that it could be converted into an aircraft carrier and a 20,000-man troopship. Because of these features, the U. S. Government may contribute up to 55% or 60% of construction costs.

Negotiations are under way with the U. S. Government for guarantees of partial financial underwriting, and plans have already been approved in the first stage, said Mr. Cantor. Construction time would be three years, after final approval of plans.

Bid for Biggest

At 105,000 tons each, the ships would be 25% larger than the largest now in existence. With a schedule of four days or less between New York and Europe, they would be the fastest afloat. And with fares ranging from $50 to a top of $125 per person, they would be by far the cheapest form of transatlantic travel.

Fares would cover transportation and berth only. For meals, passengers could choose among a formal dining room, a semiformal dining room, two cafeterias, and a coffee shop and counter on each of 11 decks.

Three public rooms, each seating 2,000, would be provided to accommodate conventions, Mr. Cantor said. Since convention expenses are a legitimate cost for tax purposes, the hotelman predicted that this would prove a popular location for conventions.

Accommodation would all be cabin class. Two-passenger cabins would have twin beds, while four-passenger cabins would be equipped with twin beds and bunks. Cabins would be approximately 10 ft. by 11 ft., equipped with toilet and shower.

It is planned to offer a two-week, all-expense vacation from New York for $330, available with a $30 down payment and 10 monthly payments of $30. Under this plan, tourists would stay at hotels in London, Paris and Brussels to be acquired by the shipowners.

Que. Titanium Passes Tests

(Continued from page 1)

tanium Corp.'s Sorel smelter (The Financial Post, March. 5). The pilot plant has been operating since last fall.

Light, strong and capable of withstanding high temperatures, titanium metal is in big demand for defence. World production last year was only 5,000 tons, but capacity of 13,200 tons has been added to U. S. output, at a cost of $55 millions, with government assistance.

Direct Mail Contest Judges Are Chosen

Judges for the 1955 Canadian Direct-Mail Leaders Contest sponsored by Provincial Paper Ltd. will be Roydon M. Barbour, promotion counsel, Presentation of Canada Ltd., chairman, Vernon Martin, president, Walker Press Ltd., Paris, Ont., Gerry Moses, head, graphics division of public relations department, Imperial Oil Ltd., Toronto, J. M. Burns, production consultant, Cooper & Beatty Ltd., Toronto; D. Mahoney, advertising manager, Frank W. Horner Ltd., Montreal; W. C. Beamer, assistant vice-president, Bell Telephone Co. of Canada, Montreal.

Entries for the contest close midnight, Sept. 15. Winners without rank will be chosen in six groups with award certificates for sponsor, designers and producers in each group.

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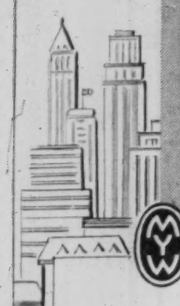

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ALUMINIUM LTD.

By PAUL S. DEACON

Don't Let the 'Cash Flow' By

A Look at Evaluation of Growth Stocks Today

At the end of World War II, you could have bought 10 shares of the old Aluminium Ltd. stock for $950. If you had taken up the rights offered on three occasions subsequently, at a cost of a further $1,120, the market value of your investment of $2,070 would be more than $13,100 this week. This doesn't take into account about $1,600 in dividends over this period.

This incidental intelligence is of small comfort to the investor today who is looking into the present Aluminium Ltd. shares, now selling at $101 or so (following a 5 for 1 split in 1948 and 2 for 1 in 1952). He remembers this same stock passed the $50 mark only about 15 months ago, and wonders whether there is much left in it for him.

The problem of putting present stock prices, such as that of Aluminium, in proper perspective these days is particularly difficult because of the rapidity of the rise in prices. One still has vivid memories of much lower prices.

Also on a yield basis, many stocks hold out less attraction than a government bond. From the point of view of current earnings, their prices are far above the 12-14 times earnings that might be considered "normal."

Aluminium is probably as good an example as any of this type of stock. It pays dividends currently at the rate of $2.20 a year—a yield of only 2.18%. Its 1954 earnings amounted to $3.87 a share, so a price of $101 is 26 times last reported annual earnings. In other words, if the whole 1954 net profit were paid out in dividends this year, the yield would be only 3.83%.

This doesn't look too attractive on the surface. But investors are evidently going beyond these "surface" figures in calculating values.

One of the figures they are looking at is the greatly increased cash flow—the net income plus the depreciation provision, after current income taxes but before providing for future income taxes. (Because the company is claiming for tax purposes greater depreciation than it is actually charging on the books, it is making provision for heavier than normal income taxes later.)

This cash flow was $18 millions in 1946, $37 millions in 1949 and $73 millions in 1954, an increase of 300% in this period. In the same period, net profit has risen from $12 millions to $35 millions, or just under 200%.

This record has been achieved with an increase in sales from $111 millions in 1946 to $328 millions in 1954, a rise again of just under 200%. Thus net profits have kept pace with the rise in sales, and cash flow has risen even faster.

This high cash flow has considerable significance for investors. First, it spotlights the large sums being plowed back into expansion and retirement of debt. After dividends were provided last year, for instance, there was available $56 millions for reinvestment in the business. The comparable figure in 1946 was $11 millions.

Secondly, it shows that there is a comfortable margin left for the dividends now being paid, and leaves room for possible increases later.

It's not very impressive to compare the $3.87 per share earnings last year with the $3.67 earned in 1948 (allowing for the 1952 stock split). On the other hand, the cash flow in 1948 was only $36 millions, just half the 1954 figure.

Equity Goes Up

This greatly increased flow of money is increasing the equity behind each share. It has helped finance the large expansion of capacity at Kitimat and in Quebec.

The company's Canadian aluminum output in 1946 was only 193,000 tons, due partly to surpluses left over after the war. By 1949 this had risen to 345,100. Last year it was 555,200, or an increase of about 175%. Capacity this year is about 640,000 tons, with the coming into operation of the Kitimat smelter. A further 240,000 tons is being added at Kitimat, with the present target date for completion being 1959 (there would be a gradual build-up).

Can all this additional capacity be used? The present price of Aluminium stock suggests investors feel it can, and profitably.

Here are some reasons for expecting the growth to continue:

In the next two years, about 310,000 tons will be added to free world capacity, including 65,000 by Alcoa, 50,000 by Anaconda Aluminum (next month), 25,000 by Reynolds in the U.S.; 30,000 in Norway, 20,000 in Tasmania, 30,000 in French West Africa and 90,000 at Kitimat.

But the free world consumption has been rising over the longer term at a rate of about 7% per annum (since 1950 it has been 14%). Allowing for an increase of slightly less than this "normal" rate, it still adds up to a demand for an additional 400,000 tons in 1956—or more than the increase in capacity.

Where is the demand coming from? Aluminum people have their eyes on the huge potential in the automotive industry. The average car today in the U.S. has about 30 lb. of aluminum in it. One top-price car has 175 lb. One U.S. firm estimates the total should be 262 lb. per car. Provided the auto industry can be assured of adequate aluminum supplies, aluminum men think they have a good chance of reaching this total.

The Demand Outlook

This kind of demand falls into perspective if you realize that for even 100 lb. more metal on six million U.S. cars, 300,000 tons of aluminum a year would be needed. That's just under the amount of aluminum expected to be available annually from the Kitimat smelter at the end of the present phase of its expansion in 1959.

New demand for aluminum is coming from unexpected places. Foil consumption, for instance, rose 30% last year. The great variety of baked goods and items such as TV dinners are gobbling up foil. In the electrical industry, aluminum has an acknowledged hold on the high tension transmission lines. Now it's also moving strongly into smaller sized cables, including even household wiring. With copper at 36c a lb., it's claimed that aluminum can do the same job—taking into account differences in conductivity, etc. —at one third the cost of copper.

Relating all this to what Aluminium shares should sell for is not easy.

Output of Canadian ingot has risen about the same amount percentagewise as dollar sales and net profits in the past decade. The company is increasing its capacity by 38% in the present program—a program which might have to be stepped up if present rates of increase in consumption continue.

Pressure On Prices

Another source of more revenue might be through higher prices. There has been some pressure for this in the U.S. Aluminum producers are trying to keep prices attractive in relation to other metals, but stronger prices in these competitive materials recently leaves the producers with a bit more leeway than before.

Unit costs at Kitimat will decrease greatly as production rises there. The first 90,000 tons capacity cost about $3,000 per ton, the next 240,000 tons is expected to cost only about $1,000 a ton.

First results for this year indicate earnings are on the uptrend. First quarter net was 33% higher than a year ago at 91c a share, on a sales gain of 22%.

To sell on a price basis of 20 times earnings Aluminium at $100 would have to earn $5 a share this year; for 15 times earnings, about $6½; for 12 times earnings, about $8.

On the basis of present indications, the first looks to be the only one capable of accomplishment this year. Investors therefore appear to have been looking at least a couple of years ahead when they pushed the stock up beyond the $100 mark.

Plan Steel Pipe Mill In Ontario

Construction of Canada's first seamless steel pipe mill will begin in July, on a site close to Algoma Steel Corp. works at Sault Ste. Marie.

The mill will be built by Mannesmann Tube Co., a subsidiary of Mannesmann A.G., Dusseldorf, Germany and will cost about $20 millions. Mannesmann is the leading manufacturer of seamless steel pipe in Germany.

The new mill will have rated annual capacity of about 225,000 tons, and is scheduled for operation late in 1956. Steel will be obtained from Algoma.

The oil industry is expected to be the major customer. Last year, imports for casing alone for gas, water and oil waters were $11.7 millions from U.S.; $2.6 millions from U.K.; $1.5 millions from Japan and $1.2 millions from Germany.

SALE OF VESSELS

Tenders are invited for the purchase of S.S. "Prince Rupert"; built 1910; gross tons 3379.26; passenger accommodation 101 staterooms — capacity approximately 202 passengers; draught loaded 15' 7¼" mean; Class—was Lloyds' A.1 until taken out of Class Sept. 30, 1954; twin screw; 2 triple expansion 4-cylinder reciprocating engines; Scotch Marine oil fired boilers—2 single end and 2 double end; speed 15 knots; bunker oil capacity 2162 bbls.

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Calgary	3½	1969	100.55	3.45
Victoria	3¾	1965	101.00	3.63
Regina	3¾	1965	101.69	3.55
Regina	3¾	1977	100.00	3.75
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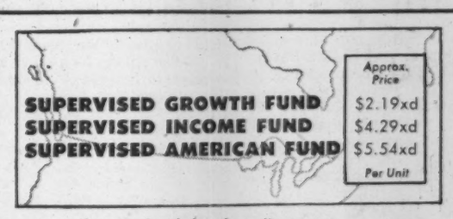

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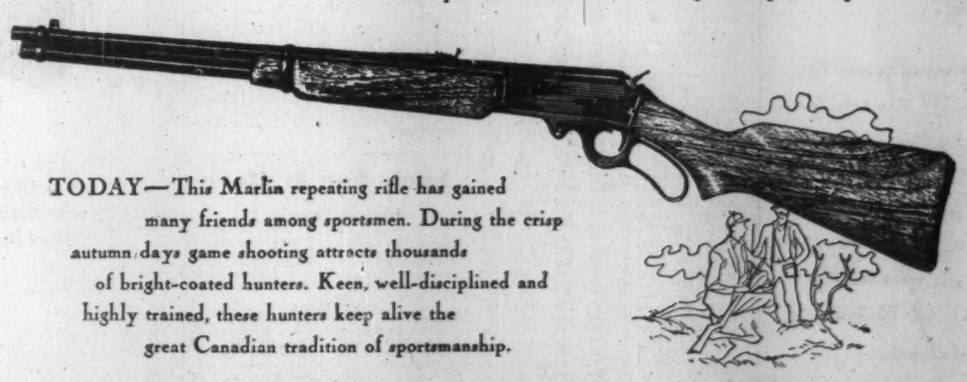

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MANAGED INVESTMENT

Compton's Account Passes $30,000 For First Time

Compton's account had the highest market value in its history on June 15, Compton's manager reports in his monthly valuation and report.

The rise was $2,400 in a month, bringing the value of the account to $30,098. Break-up value is $9,400 above its level a year ago.

The rise reflects the recent market strength of stocks like Aluminium Ltd., International Nickel and Consolidated Mining & Smelting.

Compton's Manager Says:

With the Toronto Stock Exchange index of industrial stocks closing at a new all-time high of 411.63 on June 15, the break-up value of Joseph Compton's investment account was also at a new peak on the same day.

As at June 15, Compton's account was valued at $30,097.52, an increase of over $2,400 in comparison with the previous month. Compared with a year ago, Mr. Compton's account shows an improvement in break-up value of $9,400.

Some indication of the strength in both the Canadian and the New York stock markets is shown in the following comparison:—

	Mid-June 1955	Mid-May 1955	Mid-June 1954
T. S. E. Golds	85.25	83.02	72.96
T. S. E. Base Metals	194.29	179.13	148.26
T. S. E. Western Oils	112.14	103.79	94.35
T. S. E. Industrials	411.63	393.10	342.48
D. B. S. Industrials	246.8	226.7	179.0
Dow Jones Industrials	443.97	415.01	325.21

Between mid-June, 1954 and mid-June, 1955, the DBS index of industrial common stocks rose by 38%, the Dow Jones index of industrials, by 37%; on an average, Mr. Compton's securities rose in price by 45%.

During the period ended June 15, Mr. Compton sold his entire holdings (25 shares) of Distillers common stock and at the same time, he increased his holdings of Aluminium common by five shares to a total of 35 shares. He also, at the same time, purchased an additional 10 shares of Hudson Bay Mining & Smelting, bringing his holdings of this investment to 60 shares.

On the sale of the 25 shares of Distillers, Compton realized a net profit, in cash, of $147.75.

Now that most of the companies have indicated the annual rate of their dividend payments for the current year, Compton's investment advisors have, as in preceding years, recalculated the prospective annual income of Compton's account.

As of June 15, Mr. Compton's prospective annual income is estimated at $1,283.25. This is about $55.00 more than the corresponding figure, as of June 15, 1954, which was $1,228.75, and is more than three times his annual rate of income ($393.75) in the closing weeks of 1944, when first Compton's account was taken over by his investment advisors.

Investment income amounting to $126.50 was received by Compton during the month ended June 15. The usual monthly withdrawal of $60.00 for personal expenses was made. In addition, the sum of $20.00 was withdrawn from the cash account to cover current safekeeping charges, payment of management fees, etc. for the three months' period ended June 15. A net balance of $46.50 was added to the cash account.

The Compton Account Now Stands

No. of shs.		Cost price per share	Market value per share June 15
	Common		
100	Abitibi	$12.76	$34.625
35	Aluminum	50.05	101.25
25	C.P.R.	24.69	34.50
100	Powell River	24.50	52.25
75	Hiram Walker	47.60	71.50
	Mining Stocks—Base Metals		
25	Cons. Smelt	$17.00	$38.75
60	Hudson Bay	50.52	61.00
100	Internat. Nickel	49.32	69.00

SUMMARY

	Agg. book value	Quoted mkt. value June 15	Prosp. ann. inc.
Common stks.	$9,769	$18,456	$714
Mining stocks—			
Base metals	8,389	11,529	569
Cash	112	113	....
	$18,210	$30,098	$1,283
Current market value of fund			$30,097.52
Prospective annual income			1,283.25
Av. yield on orig. $10,000			12.83%
Av. yield on curr. mkt. value			4.28%

What Next After Bersimis? Quebec May Favor First Falls

MONTREAL (Staff) — Quebec Hydro-Electric Commission has finished drilling the 7½-mile tunnel at its giant Bersimis River hydro plant construction job.

A major engineering feat, the tunnel is 35 ft. wide and will channel water into the underground powerhouse at Labrieville. It was blasted out of solid granite by hard-rock miners working from both ends. The two groups met at just about the halfway mark, and were only one-eight of an inch out, according to the commission.

Putting the tunnel through was an 18-month job. It will now be lined with concrete and is scheduled for completion some time late in 1956.

Meantime Quebec Hydro appears to be swinging more and more toward First Falls—just 18 miles downriver from Bersimis No. 1 plant—as its next big project. There's no definite decision yet, according to Hydro officials.

If First Falls is picked, it could mean postponing development at Lachine Rapids, and further development at Beauharnois, for some years.

Lethbridge Freezer Plant Opens July 15

LETHBRIDGE, Alta. — Trans-Canada Freezers Ltd. food freezing and cold storage plant is scheduled to be opened here July 15. Plans call for similar plants at Calgary, Edmonton, Regina and Saskatoon.

The $400,000 Lethbridge plant will be equipped to handle vegetables from Southern Alberta's irrigated farms, as well as meats and processed foodstuffs. With construction complete, equipment costing more than $250,000 is being installed.

Cont. Motors Buys Site For Plant

Continental Motors Corp. of Muskegan, Mich., has purchased a nine-acre site in St. Thomas, Ont., for the construction of a 30,000-sq.-ft. manufacturing and assembly plant.

A subsidiary, Continental Motors of Canada, has been established to operate the plant and the present Canadian sales and distribution organization. The parent company manufactures a broad line of specialized power plants for agricultural, industrial and transportation use.

The new Canadian plant will employ some 200 persons when full operations are undertaken. Company officials say they hope to develop an export business to Commonwealth countries from the St. Thomas plant.

Du Pont Directors To See Other Half

MONTREAL (Staff) — The board of directors of Du Pont of Canada will meet outside Montreal headquarters at Shawinigan Falls, June 23.

It was decided to hold some meetings at company plants so that directors might become more familiar with local conditions and the part played by the company in the community. It will also give directors an opportunity to meet senior workers and others. The meeting is for two days.

CROWN ELECTRICAL MANUFACTURING LTD. of Brantford has been appointed commercial gas and cooking equipment distributor in Canada for Magic Chef Ltd. of St. Louis.

RSC

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TOWN OF ESSEX

Tenders for Debentures

Sealed tenders marked "Tender for Debentures" will be received by the undersigned up to 3 p.m. Eastern Standard Time, Wednesday, June 29th, 1955, for the purchase of Debentures of the Town of Essex as follows: $110,000.00 20 year debentures, to be dated August 1st, 1955, final payment August 1st, 1975; approximate equal amount payment of interest and principal annually; $44,000.00 principal maturing during first ten years, 4%, remainder 4½%; debentures due in 20th year only callable; issued for erection of addition to Essex District High School; principal and interest payable in Canadian funds in Toronto and Essex. The highest or any tender not necessarily accepted. For further particulars apply to W. E. Beaman, Treasurer.

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Supervising Construction Engineer Wanted

This is a Senior appointment and applicants must have had considerable experience in heavy construction, including all forms of marine works. A qualified Civil Engineer is preferred—Age 40 to 45—Salary up to $12,000.00 per year according to experience to the right person with further prospects. Applications, treated in confidence, should give qualifications and experience with positions held together with references if available.

BOX 524, THE FINANCIAL POST, TORONTO

These securities having been sold, this advertisement appears for record purposes only.

$125,000

DAVIES IRWIN LTD.

First Mortgage serial 4¼% and 4¾% Bonds

and

$200,000

6% Cumulative Participating Redeemable Preferred Shares

(par value $10.00 per share)

Price: $10.00 per share

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EXCEPTIONAL OPPORTUNITY

Department Store Junior Executive

An expanding, nationally known department store has an extremely interesting opportunity for a young man with proven experience in retail accounting, controlling and administration. The position is assistant to the controller in a newly organized branch. The successful applicant must have several years experience, preferably with a store using N.R.D.G.A. procedure, intelligence, drive and a good education. He should be capable of taking charge of all accounting and manage an office staff of fifty persons.

The company provides all the usual fringe benefits and unlimited prospects for advancement.

Application should be made by letter giving full details regarding experience, education and age. All applications will be treated in the strictest confidence.

BOX 527, THE FINANCIAL POST, TORONTO

These bonds having been sold privately, this advertisement appears as a matter of record only.

New Issue

$5,625,000

Peace River Oil Pipe Line Co. Ltd.

3¾% First Mortgage Serial Bonds, Series A

To be dated July 1, 1955 and to mature semi-annually, January 1 and July 1, 1959 to 1970

Harris & Partners Limited — Wood, Gundy & Company Limited

McLeod, Young, Weir & Company Limited — Tanner & Co. Limited

New Issue

$10,000,000

British Columbia Power Commission

Guaranteed unconditionally as to principal and interest by the Province of British Columbia

3¼% Sinking Fund Bonds

Non-Callable

To be-dated July 4, 1955 — To mature July 4, 1975

Principal and half-yearly interest (January 4 and July 4) will be payable in lawful money of Canada in the cities of Victoria, Vancouver, Edmonton, Regina, Winnipeg, Toronto, Montreal, Saint John, Halifax or St. John's, at the holder's option. Bonds will be available in coupon form in the denomination of $1,000 and in fully registered form in the denominations of $1,000 or any multiple or multiples thereof. Coupon bonds and fully registered bonds are interchangeable.

Legal opinion: Messrs. Daly, Thistle, Judson & Harvey.

In the opinion of counsel, these bonds are direct obligations of the British Columbia Power Commission and are unconditionally guaranteed as to principal and interest by the Province of British Columbia, the guarantee being endorsed on each bond.

The net proceeds of the sale of these bonds are to be applied to the repayment of outstanding Notes of the Commission.

Provision will be made for annual sinking fund payments by the Commission to the Minister of Finance of the Province of British Columbia, acting as Trustee for the Commission, amounting in each year during the currency of the Bonds to at least $165,393, said sinking fund payments and the interest earnings thereon to be invested by the Minister of Finance.

PRICE: 99.25 and accrued interest to yield about 3.30%

We, as principals, offer these bonds subject to prior sale, if, as and when issued and accepted by us, and subject to the approval of counsel.

It is expected that bonds in definitive form will be available for delivery on or about July 11, 1955.

A circular describing this issue will be sent upon request.

A. E. Ames & Co. Limited

Wood, Gundy & Company Limited — Dominion Securities Corpn. Limited

It Should Help a Little

Proposed changes in the rules and procedure of the House of Commons as laid before Parliament last week are certainly not revolutionary.

They will still leave plenty of time for speech making and dawdling.

But, as the Montreal Star points out, half a loaf is better than nothing, and for any speeding up of the nation's business the public will be thankful.

Recently Parliament has been sitting longer and longer, six and seven months instead of as many weeks, not so very many years ago. If the present trend were to continue it would only be a matter of time until MPs would be serving the full year at Ottawa and have no opportunity of keeping in touch with their constituencies or carrying on their own private business. Under such conditions Parliament would then become merely another branch of the permanent civil service. We would have something very close to rule by bureaucracy.

Under the present rules, the time limit on most speeches is 40 minutes. The new proposals would cut this to 30 minutes but only for part of the time when the House is in committee. Even that saving will not be as great as it seems because there is nothing to prevent a member speaking several times in the same debate.

More to the point is the proposed time limit on debating the Speech from the Throne and the Budget.

In recent sessions these have stretched out almost interminably especially in the Throne debate. Then members could talk about almost anything that entered their minds and the great majority of them did. It didn't seem to make any difference whether anyone listened — a full 40 minutes of Parliamentary time was consumed, and a dozen or more pages of Hansard were covered. Now at least a week or two should be sliced off that dreary, useless business. That is probably the biggest single gain to expect.

In this and previous attempts to improve the working of Parliament, one point seems clear enough. If there is to be any substantial reform, then the pressure for it must come from outside Parliament. The special committee which worked on the present proposals got very little general encouragement from the House itself. Even for the moderate restrictions on speech-making there was a good deal of objection.

What the Commission Can Do

One of the most widely approved moves which the Federal Government has made was the setting up of the Royal Commission, whose personnel has now been announced, to take a broad, over-all look at Canada's economic position and prospects.

It is true that other people — and able people — are doing this same sort of thing all the time. There is scarcely a month that doesn't see some solid study by an individual or a private agency on some aspect of the Canadian economy.

But a Royal Commission can do this in a way no one else can. It has all the resources of the Government behind it. Not only can it call before it any witness it desires to hear, including the most eminent in the land, but these people will in most cases be eager to appear before it, knowing that they will get a careful hearing and that their views are assured of the widest publicity and the greatest possible effect. If it is inevitable, in these circumstances, that hobby horses will be ridden daily through the hearing hall the secretariat of the Commission ought to be capable of putting each in its proper stall.

We hope that the Gordon Commission will not merely set out to produce a textbook on the Canadian economy. What should it aim at, instead? An inventory of Canada's natural resources, similar to the U. S. Paley Report? Here there would be the very great difference that the Paley Report documented U. S. deficiencies in raw materials while our report would be more of a catalogue of riches.

Certainly one of the main aims of the Commission's study must be to chart Canada's role in supplying the U. S. needs in raw materials which the Paley Report indicated would rise sharply in the next two decades.

But ought it not to give most particular attention to the amount of processing which we should do before these raw materials are shipped out of the country?

Ought it not to study the effects of the great postwar shift in Canadian foreign trade, the sick industries which this change has left, and what to do about them? Shouldn't it take the widest look at this country's energy resources, and the desirability of exporting power which we may need in the future ourselves, whether it be natural gas, the stored or diverted waters of the Columbia or the Yukon Rivers, or electric power? And needless to say, it will peer as best it can into the atomic future, to consider the possibilities of such basic changes as might be brought about by being able to take packaged power to almost any point we might want to use it.

The Commission's distinguished personnel and its terms of reference assure that its view will be a sweeping one. Let it also be intensely practical.

Peron and the Price of Wheat

Argentina may be, in Mr. Chamberlain's famous phrase about Czechoslovakia, "a far-away country of which we know very little." Yet there is a very particular interest for Canadians in the crisis of the Peron Government. It was probably brought about, more than by any other factor, by the drop in the world wheat price — a drop which caused our Government some difficulties, but produced hardly a political ripple in this country.

Peron rode to power on the prosperity which the marvelously efficient wheat and meat producing economy of the Argentine had secured for that country during the war. He then began at once to tinker with it, intending to use the great foreign exchange surplus which it had piled up to industrialize the country, make it independent of U. S. influence, and secure the leadership of South America. Requisitioning the wheat from the growers at a fixed rate, he offered it to a hungry world at fabulous prices.

When the world market became flooded with wheat this game was up. Peron had drawn many farm workers away from the land, shaken the confidence of the big ranchers and scared away foreign capital. He had upset the old economy without establishing a new one.

Even after the inglorious end of the Italian dictator, Peron had proclaimed him "the greatest man of this century." Of course, Mussolini had made mistakes but he, Peron, would have the chance to study and avoid these mistakes, he boasted.

The mistake which Mussolini never made was to attack the Roman Catholic Church. When Peron did that, he provided the unifying factor for the opposition.

Worth Thinking Over

One year's national military service for the young men of Canada is proposed by the Toronto Telegram's publisher, John Bassett, Jr. That suggestion will have a broad appeal to citizens across the country — for many reasons aside altogether from defense.

It is rather doubtful in this age of complicated military equipment and tactics whether one year's training would be sufficient to produce valuable soldiers. But, as Mr. Bassett points out, there should be substantial other benefits. "One can easily visualize," he said, "what a year of regular food, regular hours of sleep, a measure of discipline and exercise, and of living out in the open would do for the general health of Canadian youths."

Close association of young men from different parts of the country and from different family backgrounds, too, should do much to break down regional and racial prejudices and give a better national outlook. That was certainly the case from the limited military training in the first and second world wars. Many men came out of the armed forces then in better physical shape than when they went in and all came out better Canadians.

With careful administration and a minimum of parade ground "spit and polish," a year of national service would not be a year wasted. It could prove a most useful preparation for business or university.

Mr. Bassett's proposal deserves serious and above all, calm consideration. He didn't make it with the idea of stirring up old controversies, but to start us thinking. We hope it serves that useful purpose.

Too Much Government?

Senator Thomas Crerar and his colleagues of the Senate Finance Committee have brought down a report on the spending of government in this country which every Canadian voter would do well to consider. The government of this country, all together, spent $4,100 millions of the people's money in 1950, $6,370 millions in 1954, and they plan to spend $6,695 millions in the current year.

The double danger of this, say the Senators, is that it represents too large a part of the national income — 27% of the Gross National Product — and that government in Canada is now spending more than it dares to take from the taxpayer. It is borrowing to make up a deficit of over half a billion dollars this year, and as the Senators point out, "when governments have to borrow to meet deficits the danger signals (of inflation) are definitely flying.

Prospects are Good

When Public Works Minister Winters told the Master Plumbers Association that Canada will need two and a half million more homes by 1975, he was engaging in speculation. As he pointed out, this estimate is based on two assumptions: continued population growth (an increase of 11.5 millions in 20 years), and a continued rise in real per capita income.

These assumptions seem well founded, in view of current marriage and birth rates, and in view of the fate at which Canada's resources are being developed. The Master Plumbers — and the nation as a whole — can take Mr. Winters' good news as being more than a hopeful guess.

But for those who prefer their good news to concern itself with here and now, there is something to cheer about too. In the first four months of 1955, housing construction shattered all records.

Our Cluttered Universities

Almost everyone favors a college education for as many people as possible. In this complex age we simply cannot have too many highly trained. Every student who has demonstrated the capacity to benefit from exposure to higher educational values should have the opportunity of going to university.

To accomplish that, however, something drastic will have to be done to make room for those willing and able to learn. It is quite obvious that our Canadian universities are cluttered with thousands of young people either incapable or too lazy to benefit. They are simply wasting their own and other people's time, and money.

Dr. Sidney Smith of the University of Toronto is emphatically right when he says that a way must be found to screen out those individuals to whom a university course is no earthly—or heavenly—use, leaving facilities of higher learning for those who can profit from them.

This is not a hypothetical problem that we will have to face at some future date. We face it now. Our universities are already crowded with a total enrollment of 64,000. In the next 10 years that total will certainly double, as the bumper crop of postwar babies reaches university age.

We can't begin to handle that increase and carry the deadwood, too. Even if it were possible to finance and build the necessary physical plant, we have not the teaching staff.

This is not a matter of money. Higher education is something that can't be bought. It is not something that lends itself to mass production. That, as Dr. Smith aptly puts it, could only lead to "academic elephantiasis."

What we are going to have to do, as Dr. Smith and other authorities have warned, is to place university admission on a much more selective basis. If all those able to profit by a college education are to have the opportunity in future, then there is simply no room for the others.

Napier Moore's Scratch Pad

A FEW DAYS AGO we made a speech about Canada to the Rotary Club of London. On the walls of the room in which it meets hung some 400 flags presented by visiting Rotarians from clubs in 89 countries. Present that day were 54 visitors from other lands—Canada, Australia, New Zealand, the United States, Brazil, Italy, India, Pakistan, Sweden and Israel, which wasn't at all unusual.

There are 88 Rotary clubs in Greater London, with a total membership of more than 4,000. Established in 1911, the London Club is the oldest in England and the biggest in Europe. Whether or not it is the oldest in Europe is a matter of mild dispute. Its president, Frederick A. Bell, told us that it was the first to apply to the U. S. parent body for a charter. The Dublin Club was a close second. But the International Rotary officer who brought the charters over stopped first in Ireland and it was one day later that the London Club received its authorization.

With a past president of the club we were discussing the type of community service it engages in. He asked us if we knew what was the first public service established by the original Rotary Club in Chicago. We had to confess our ignorance. "A men's comfort station," he said.

* * * *

IF WE HADN'T BEEN COMMITTED to a speaking engagement ourself, we certainly would have gone to Foyle's Literary Luncheon. The guest of honor was Emanuel Shinwell, in turn Minister of Fuel and Power and Minister of War in the Socialist government. There was a time when Shinwell was known as Terrible Manny, the Glasgow Red. But he has written his autobiography, "Conflict Without Malice," and ranking members of all political parties went to the luncheon and showered him with praise. Even Sir Winston Churchill wrote regretting his absence and extending his warm congratulations.

Responding to all the tributes, Terrible Manny said, "Well, well. After being criticized, denigrated, pilloried, kicked from pillar to post . . . here I am. All this praise, all these references to high qualities. This is it. I have arrived. There have been other signs. I received a postcard addressed simply, 'Mr. Shinwell, England.' I wondered how the General Post Office had been able to identify it. Then I turned it over and read:

'Shut up, you big mouth.'"

* * *

WE WENT TO SEE the Royal Academy Exhibition. Walking into Gallery No. 111, we were greeted by a familiar face. Smiling at us from the wall was E. P. (Eddie) Taylor. An excellent portrait by James Gunn.

Most outstanding of the many portraits in the show is that of the Queen, in the kingfisher-blue mantle of the Garter, by an Italian painter, Pietro Annigoni. This being England, there is nothing incongruous whatever in the fact that the portrait was commissioned by the Worshipful Company of Fishmongers.

In a corner of Gallery No. 1 hangs a rather impressionistic painting, "Sunset at Roehampton, 1919." It bears the modest initials "W. S. C." Sir Winston S. Churchill, Hon. R.A.

We didn't spend much time with the futurists. Some of the canvases reminded us of a remark made by the late Hector Charlesworth as we stood gazing at a daub in Toronto many years ago. "It looks to me," said Hector, "like the inside of a drunkard's stomach."

* * * *

WE BLINKED when we read in the papers that in one minute's trading on the London Stock Exchange the Church Commissioners of England made a paper profit of some $553,900. Reason was a sudden surge in Metal Box shares, of which the Church Commissioners hold 191,000

We had never heard of it before, but the Church Commissioners, headed by the Archbishop of Canterbury, operate a big-scale investment trust. Last year's dividends topped $7 millions. A large part of this income goes to pay the stipends of vicars and renovate vicarages.

Oxford University hasn't done too badly out of Metal Box either. The Chancellor, Masters and Scholars own 23,000 shares.

* * *

THE BRITISH are a tolerant and patient people who take in their stride a disaster such as the railway strike. But we marvel at their forbearance over the antics of certain Hollywood movie stars who come here to make pictures. Take, for example, Ava Gardner. Staying at a Surrey hotel, at dinner time La Gardner called the kitchen and ordered a meal for her dog. Up came some scraps of meat and vegetables. This was rejected. "My dog only eats steak," the kitchen was informed.

Up came a prime steak, covered with gravy.

This too was returned. The dog did not like gravy.

The chef remained calm. He washed the gravy from the steak, dried it with a cloth and sent it back. Receiving no further communication from the pocket Bernhardt, he assumed that the dog was satisfied and went back to his less exacting duties.

* * *

ENVELOPES containing British income tax demands are bearing the postmark slogan "Blood Donors are Urgently Needed."

Stop Me If . . .

Jimmy—You look is if you were all in. What's wrong?

Harold—Last night I called on that new doll I was telling you about. Her mother opened the door and let me in —and then and there she demanded to know what my intentions were.

Jimmy—That was putting you on the spot.

Harold—Yes, but that wasn't the worst of it. Just as the mother had finished speaking, the girl shouted down the stairs: "Mother, that isn't the one!"

Post Scripts

A Prize Started Him

When a neighbor happened to mention that insurance companies paid cash prizes to students who passed examinations in mathematics, 17-year-old Ernest Gill started on a career that carried him, at 52, to the presidency of the association representing the 72 life insurance companies operating in Canada.

Gill, president of Canada Life for the past four years, has recently been named head of Canadian Life Insurance Officers Association. His path to the top began when he was studying at Queen's University in his home town, Kingston, Ont. The youthful Gill had strong penchants for both mathematics and economics, but could find no course in the Queen's calendar that offered both. He was allowed to straddle the mathematics and physics course and the political science and economics course, when he persuaded the registrar and professors that such a program would be the logical preparation for an actuarial career.

During his last summer as an undergraduate, Gill took a temporary position with Canada Life Assurance Co. Upon graduation in 1923 — with a gold medal in mathematics — he entered Canada Life's actuarial department on a permanent basis.

That wasn't the end of studies and examinations, however. He undertook an actuarial course that continued until 1926, when he qualified for the designation, Fellow of the Actuarial Society of America.

From then on, Gill's progress toward the top of Canada Life was steady. He was appointed assistant actuary in 1927, assistant treasurer in 1930, treasurer in 1938, assistant general manager the following year, general manager and director in 1946, vice-president in 1947, and president in 1951. Some of his CLIOA colleagues jokingly suggest that, as president, Gill's only duty is to change the bulbs in the illuminated weather beacon atop Canada Life's downtown Toronto head office.

On Oct. 26, 1929—the Saturday before the famous "Black Tuesday" of the stock market—Gill married the former Mercedes Rae of Toronto. The couple's 21-year-old daughter, Mary, works in the medical underwriting department of Manufacturers Life at Toronto.

A widely traveled family, the Gills usually spend their summer vacations motoring to such points as eastern Quebec, Maine or Virginia. Hobbies favored by Gill, a 200-lb. six-footer, include golf and stamp collecting.

As a student, Gill was president of his year and of the arts class. He has maintained an active interest in Queen's throughout the years, in the alumni association and, currently, as vice-chairman of the university's board of trustees.

Gill is a director of Canadian Bank of Commerce, National Trust, and a number of other financial institutions.

* * *

CGE's New Boss

James Hassell Goss, 47, is the new president and chief executive officer of Canadian General Electric Co. He takes over the reins from Harold M. Turner, who has been elected chairman of the board responsible primarily for top-level public and government liaison.

MR. GOSS

Goss is a young veteran of nearly a quarter of a century in the General Electric organization. A graduate in mechanical engineering of the University of Arkansas in his home state, he joined GE in 1931 as a student engineer on the company's famed "Test" course in Schenectady. Later in the same year he was transferred to the Lynn, Mass., plant where he held various engineering appointments in the meter and instrument department. In 1936 he was named engineer in charge of the works laboratory at Lynn.

Returning to Schenectady in 1947, Goss served as assistant and later as manager of engineering, in the industrial control department there. In 1951 he was transferred to the small apparatus department in Lynn and later in the same year to the major appliance division in Louisville, Ky., as division manager for manufacturing. In early 1953 he was made general manager of the home laundry department in Louisville.

With such a broadly based background in engineering and manufacturing, Goss is well equipped to head the multi-product CGE organization whose sales last year totaled almost $211 millions. Yet his associates indicate his forte is human relations — the ability to organize and integrate people on the management team. A firm believer in free interchange of information at all levels, Goss sees the decentralized, 13,500-employee CGE organization as a unit, and wants his associates to see it that way and not as a number of components scattered over a wide area of the country.

The 6th man to hold the top post since CGE's formation in 1892, Goss has plans for building up the Canadian end of the giant GE setup. "We should now be able to stand on our own, do our own design work here for our own market. We must not rely on others to do the key work in Canada."

The CGE boss is married, has a daughter Cynthia, 16, and a son James, 20. He plans to move into the Toronto area in the near future. Outside the office, his interests centre on golf, photography, woodworking, and the collection and restoration of antique furniture.

* * *

Weeklies' President

The Manitoba Division of the Canadian Weekly Newspapers' Association established precedent, it is believed, at its recent annual convention when it elected a woman president. The distinction went to Editor Helen Marsh of the Dauphin Herald and Press, a thriving weekly whose circulation is about 40% of the town's total population.

MISS MARSH

Dauphin's publishing history is nearly identical with that of the Marsh family. Miss Marsh's grandfather, George King, who used to publish a paper in Oakville, Ontario, came to Dauphin in 1898 as editor of the recently founded Press. He was the first mayor of the town after its incorporation in 1901. His son William D. King was publisher of the rival Herald. This father-son competition ended during World War I in a merger of the two town papers. Miss Marsh's father William S. Marsh succeeded to the editorial chair with his brother-in-law W. D. King as publisher, and acquired the business on the latter's death in 1931. From the day he took it over his only daughter Helen Marsh was one of his helpers, sometimes the chief one.

Having attended public and high school in Dauphin, Miss Marsh took an Arts course in United College, Winnipeg. In holidays she worked in the plant, sometimes in the front office, sometimes in the composing room. On her graduation in 1938 she joined the staff. She was news editor in 1942, succeeding a brother killed in overseas service with the RCAF, and took over as editor in 1945. Her mother is publisher and a brother is business manager.

What Others Are Saying

Editorial of the Week

Most Important Discussion

Ottawa Citizen

The ingenious plan to swap Canadian for American gas as a preliminary step toward an all-Canadian pipeline from the Alberta fields, is reported to be before the cabinet. It would provide for the piping of Alberta natural gas across the international boundary at Emerson, Manitoba, at the rate of 500 million cubic feet a day, on the understanding that Eastern Canada would have an option on an equal amount to be provided from United States sources.

The pending decision is one of the most important this country has been called on to make in its recent history, and caution is essential. The proposal is attractive because it offers the industrial East an early supply of natural gas at prices possibly lower than those at which the principal promoter, Trans-Canada Pipelines, appears able to deliver supplies via in all-Canadian pipeline at the present time. It also holds out the prospect of the building of a pipeline north of Lake Superior earlier than otherwise might be the case. But Canada could come to regret the deal in the event of a breach of contract.

The underlying assumption is that Canada's interests will not be jeopardized by allowing Alberta's gas to pass first of all into the U. S. midwest, that estimated reserves are sufficient to take care of both Canadian and American needs. Should the Canadian Government take care to ensure performance under the proposed two-stage plan, including a time limit for building the all-Canadian pipeline by the present promoters, most of the anxiety may be cleared away.

Other People's Views

ONTARIO ELECTION RESULTS must have been a particularly bitter dose for the Socialists, comments the **Montreal Star.** "The C.C.F. ran a bad third even in a year which saw a marked dip down in economic activity and a rise in unemployment. Evidently the voters don't find in the Socialist program any panacea for their ills."

AUTOMOTIVE INDUSTRY can make better cars, but unfortunately not better drivers, points out the **Windsor Star.** "No matter how good a car may be, no matter how many safety gadgets it may have, it can still get involved in an accident. If the drivers of cars are careless, they can cause crashes. The better cars need better drivers."

WITH PRESSURE on university accommodation certain to increase fast we cannot tolerate any waste, points out the **Ottawa Journal.** "It is unreasonable to expect the state (or private philanthropy) to spend scores of millions of dollars on university facilities for persons unfitted for advanced studies. It is sheer waste if teachers must spend their time with students who are, in Dr. Smith's emphatic phrase, 'unable or unwilling to learn.'"

MORE EVEN DISTRIBUTION of world power may mean that we are about to see the last of the Big Four conferences, points out the **Vancouver Sun.** "Next year it could easily become the Big Six, with Germany and China sitting in. Or the Big Seven, with India. Will there be less tension in the future or more? That we can't be sure of, but it's a fact that there is less tension today and the world is entitled to hope."

THERE ARE SOME types of misbehavior which only punishment that hurts physically will discourage, maintains the **Victoria Colonist.** "Wanton, senseless destruction and damage of public or private property comes within that category. A stretch in jail, with the culprits thrown among hardened criminals, might be more harmful than beneficial in such cases; but a thrashing should leave a lasting impression. Bands of young hoodlums who roam around smashing things for the pleasure they get out of violence richly deserve to feel the weight of authority through their hides."

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June 25, 1955

Bruce Hutchison Writes About:

Canadian beauty—and horrors

By BRUCE HUTCHISON

This dispatch is written from Crystal Falls, Mich., and written here for a good reason and a bad.

The good reason is that no Canadian motorist in his senses will try to drive across his country without a detour into the United States to avoid the appalling road around Lake Superior.

But there is no good reason why this detour should be necessary. A nation 88 years old on July 1 should have completed a motorable trans-Canada highway long before now. At the present rate that obvious and necessary project seems years from completion. So far it is being built mostly of talk instead of hard-top.

Still, one can forgive our governments, federal and provincial, after a week in Ontario. For into one week of driving it is easy to cram the rough equivalent of a European tour.

* * *

Ontario Is Series Of Separate States, Regions and Peoples

Ontario is almost a series of separate states, physical regions, people and even languages. Why go to Europe for scenery when the Niagara Peninsula is quite as lovely as the English countryside and the Precambrian country of the north as spectacular in its way as the Alps. If you must speak French you will find all you can conveniently use along the northern shore of Lake Huron, together with many other tongues more mysterious.

The tourist folders, for all their gush and labored clichés, fall far short of Ontario's reality when first seen by the innocent eyes of a Western Canadian. I always supposed that Leo Dolan, head of the federal travel bureau and one of our great public servants, was given to wild enthusiasms and some professional exaggeration. I know now that he is a master of understatement.

One night I am in the limestone town of Kingston, with its Scottish face built by Scottish masons after they had completed the Rideau Canal—a genuine Canadian masterpiece only awaiting a poet to celebrate it. The evening is spent with our most distinguished historian, Professor Arthur Lower, whose cogitations on the Canadian mystery have filled many books and will shortly provide our first social history.

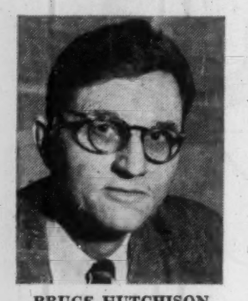
* * *

This Is the Variety Of Landscape And Legend in Old Ontario

Twenty-four hours later I am lost among the orchards, vineyards, elm forests and surging factories of the Niagara demi-paradise, talking to the great-grandson of U. E. Loyalists who came here in 1796 and, among other things, built the Commonwealth.

At the end of another day the glitter of Georgian Bay stretches out to the horizon of an endless sea. A pause at Orillia and a happy meeting with Bill Deacon, discerning literary critic of The Globe and Mail, uncovers a formidable and growing Canadian legend in the town where Stephen Leacock set his Sunshine Sketches.

Not far away one can watch



BRUCE HUTCHISON

the Stratford players rehearsing "Julius Caesar" in sweat shirts and slacks for their summer festival. And just at dark I am bursting through a crack in the Canadian Shield to discover a hard and brassy northern civilization in Kirkland Lake.

There is no lake, of course, at Kirkland Lake, the mines having filled it in with their ceaseless sludges and tailings, but a thousand lakes lie all around, gleaming in a scarlet northern sunset. Next night I am lying on a beach beside Lake Huron, where the gulls scream, the lop-sided pines grow out of the painted rocks and wild flowers lie on the forest floor in thick linoleum pattern.

Then, before the following noon, the nexus of the continent at Sault Ste. Marie presents, like a stage setting, the spectacle of great ships wallowing and whistling through the busiest locks in the world; also the spectacle of the male population sprouting beards and fantastic mustachioes to celebrate, with an odd sense of history, the centennial of the first canal between Huron and Superior.

* * *

Only the Brave Venture Farther West Than the Soo

Alas, you can go no farther west than the Soo unless you are a braver man and an even madder motorist than this reporter. So I find myself tonight in the lush greenery of Michigan, on the south shore of Superior, some 500 circular miles from Fort William.

A week of this sort teaches a man many things that he will never discover from a railway observation car or a plane—above all, the diversity of the Canadian folkways; the nation's unquenchable energy, from a Shakespearean rehearsal to a northern smelter; the shattering beauty of the land itself from the Niagara garden to the naked northern stone; and a sudden glimpse of Canada's unspeakable immensity.

Those intangibles may remain even beyond the reach of Professor Lower's far-ranging mind and pen but any traveler who still possesses a palate (an unusual piece of equipment these days) can learn a practical and grisly lesson in diet. Speaking conservatively, I would suppose that the fare in the average Canadian restaurant and hotel is easily the worst in the world—an uncontestable Canadian championship.

Another traveler, writing in Maclean's recently, said something of this sort and evidently raised the eyebrows of the tourist industry. They needed raising.

If I had not lurched out of the gustatory horrors of Kirkland Lake and stumbled into the blessed haven of Melwel Lodge, where the beefsteak was three feet square and something like a foot thick in juicy perfection, I would have been ready to write off the nation as palateless and doomed to early death by national dyspepsia.

* * *

And A Salute To Fortitude Of Americans

Yet the Americans, a few miles across an invisible line, with no better uncooked food than ours, can turn out a banquet for Lucullus along almost every mile of the road. I am yearning tonight to resume my little jaunt across Canada, but after a noble meal in a grubby little Michigan town I face our greasy Canadian menu with fortitude, horror and humiliation.

Yes, and I humbly salute our American summer visitors who risk their stomachs in the great cause of international friendship.

House of Commons Reform Will Cut Marathon Talk

OTTAWA (Staff) — The most significant streamlining of House of Commons rules and regulations since Confederation will likely be adopted before the end of the current session.

The far-reaching changes were contained in a 64-page report of the Special Committee on Procedure, presented to the House of Commons last week. The all-party Committee, headed by House Speaker L. Rene Beaudoin, recommended the proposals be put into effect during the next session.

The reform is designed to expedite the work of the House by eliminating many clumsy procedural rules. In the past, many similar Committees bogged down in arguments over details, but the unanimous approval of the current report guarantees almost certain adoption of the recommendations.

Basic objective is to drastically modernize House business procedure, as against speech-making, thereby shortening sessions. Recently, Parliament has been sitting six, seven months or longer. The current session started Jan. 7 and is expected to last until the second week of July.

The changes call for the elimination of the marathon budget and Throne Speech debates, dropping of many time-wasting formalities, and allowance for more time for the consideration of annual estimates and expenditures.

Here are the chief amendments recommended:

The traditional debate on the Speech from the Throne and any ensuing motions of non-confidence are to be fixed for a maximum of 10 days. The budget debate is to be limited to eight days.

Opposition groups may submit non-confidence motions in the Government on going into supply, on only six occasions during a session. Debate on each such motion is to be limited to two sitting days.

The Committee was not able to agree to limit all speeches to 30 minutes. The time limit remains 40 minutes, except when the Commons is sitting in Committee of the whole, when the time limit will become half an hour.

In future, Government answers to questions placed on the order paper by members will simply be filed with the Commons clerk. Every Wednesday, up to one hour limit, the Speaker will call the list of questions marked by the members concerned for an oral answer from the Cabinet.

The House of Commons hours of sitting remain the same, except on Fridays, the House will meet 11 a.m. to 1 p.m. and adjourn at 6 p.m., thus eliminating Friday night sittings. (Evening sittings will only be held Mondays, Tuesdays and Thursdays.)

The reports of committees will be read by the Clerk Assistant when submitted if the committee chairman intends moving concurrence in the report, on the day it is presented. Private bills reaching the Commons from the Senate will be automatically given a first reading, without explanation.

The annual reports of departments, orders for return and other documents required to be tabled in Parliament will simply be filed with the Clerk of the Commons, with record of the deposit entered in the day's proceedings. Special Committees of the House will not consist of more than 15 members.

Private members will get only the first six Mondays and the first two Thursdays after the conclusion of the debate on the Throne Speech for their resolutions and bills. Ministers will be able to move to refer estimates of any department to a standing or special committee.

Another limitation proposed is that supply debates be held only on Mondays and Tuesdays, with debate on the motion to go into committee of supply forbidden on the other three days. By this device, Government estimates of expenditures would be considered in committee of the whole, thus assuring that more time is spent in "business" debates.

It has often been charged that the Government does not allot enough time to the voting of public funds. Now, there will be plenty of time for debate, with the fixed number of days allowing for a more efficient division of time.

It's understood that the Liberal Government originally hoped to place much tougher limitations on talking, cutting off all speeches at 30 minutes. It was also suggested that debate time on the Throne Speech and Budget be allotted proportionately to each Party, according to the size of its representation in the House.

These measures were withdrawn as a compromise to hurry the entire reform through the Committee and to gain it the unanimous support which now promises to make it law.

Auto, Truck Output Booms Past 250,000

Canada has passed the quarter-million mark in motor vehicle production so far this year.

And there's still no appreciable slackening of the frantic production pace which has boosted the whole economy into top gear.

The breakdown at June 18: 216,236 cars produced so far this year and 41,086 trucks. Total: 257,322.

Last year, Canada's automakers by the end of June had produced 197,000 cars and 49,000 trucks. The total for a period almost two weeks longer than that for which 1955 figures are available: 246,000.

And last year, by mid-June, production had been declining for a month. This year's production drop may not be substantial until late July, says one official.

And even then, if the above-average sales pace of April, May and June is maintained, the decline in production may not be as great as the sharp drop in 1954.

Total motor vehicle production for the whole year should better 400,000. Last year it was only 350,000. In record 1953: 480,000. Auto industry leaders continue to suggest that this year may be a record sales year.

Latest company progress report comes from Chrysler, paralyzed early this week by an unauthorized strike of 500 maintenance men.

Chrysler President E. C. Row said his company in the first 6½ months shipped 50,759 new cars, 1,734 more than in all of 1954.

World Bank Calls '62 Bonds

International Bank for Reconstruction & Development will call the outstanding $13.6 millions of its 4% 10-year bonds of 1952 on Aug. 1, 1955, at 101½ and accrued interest. Part of an original issue of $15 millions (Canadian), the bonds have a stated maturity date of Feb. 1, 1962.

World Bank President Eugene R. Black said in Washington that the bonds, although favorably regarded in Canada, have not fully reflected the improvement in the Canadian market because of the ceiling imposed on their market price by the call price of the issue. Consequently, he said, the Bank has decided to call the bonds for redemption.

The 1952 bonds were the first offered by World Bank in the Canadian market. Subsequent issues were $25 millions 3½% 15-year bonds offered at 99¼ June 17, 1954, and $15 millions 3¼% 10-year bonds offered at 99 March 21, 1955.

"All of the Bank's Canadian issues are currently selling above par," said Mr. Black.

The president predicted that earnings in the fiscal year ending June 30, 1955, will reach a record high of about $24 millions (U.S.) compared with $20.3 millions in the previous fiscal year. Loans made during the year will exceed $400 millions, bringing the total in the Bank's nine years of operations to about $2.3 billions.

Field Takes Over MacDonald Bros. Sales, Service

Field Aviation this week took over the sales and services of MacDonald Bros. Aircraft of Winnipeg.

Both firms had been leading distributors of aircraft and parts before the take-over. Field intends making Oshawa (Ont.) airport headquarters for its expanded business. They will retain MacDonald's facilities at Stevenson Field, Winnipeg. A further distribution centre will operate from Calgary. A warehouse will be operated in Vancouver and a sales office in Ottawa working in conjunction with PSC Applied Research Ltd., an associate of Field's.

A Field spokesman told The Post that now they will handle practically all equipment needed for aircraft.

First big project will be the handling of the giant Blackburn-General Aircraft Beverley freighter. This British aircraft has been prepared for use as a tanker carrying fuel supplies to the Canadian North.

BEDFORD, QUE. School Board has sold $124,500 3%-4% bonds due 1956-75 to Crédit Interprovincial, Ltée, at net cost of 3.99%. Provincial grant $73,054. The present is the only long-term debt, population 2,300.

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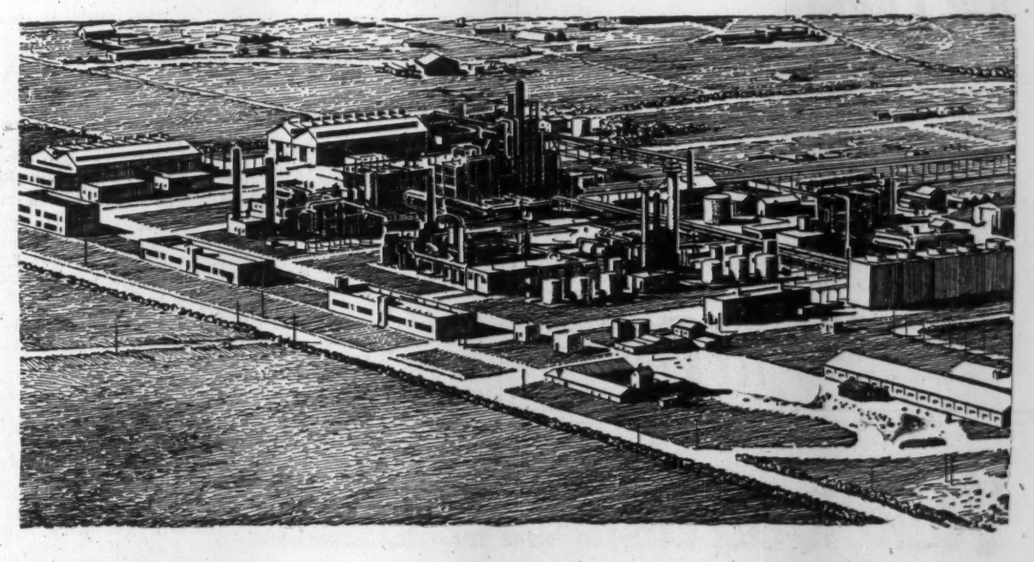
The Montreal Star



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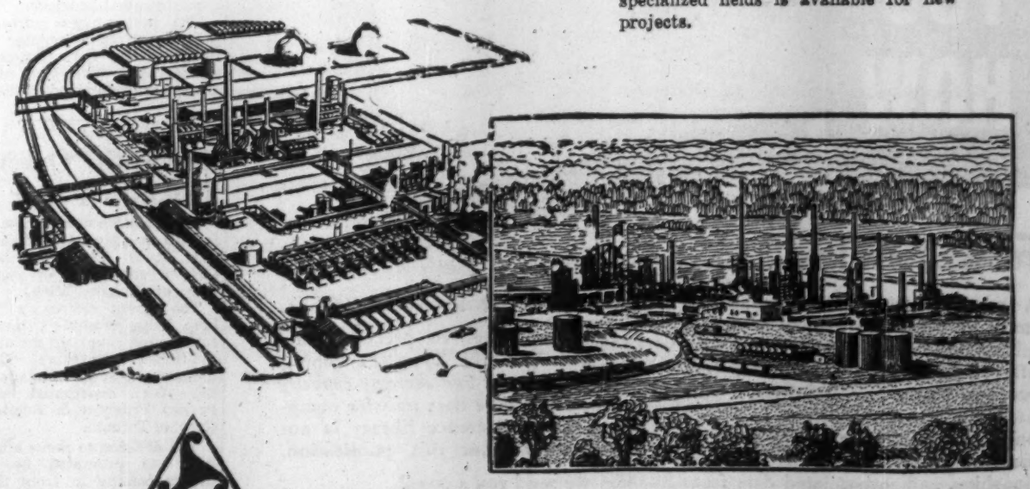

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ANNOUNCEMENT

Rolls-Royce Appointments

A. G. MORRALL

A. P. SMIBERT, C.A.

R. M. Kendall, general manager of Rolls-Royce of Canada Limited, Montreal, announces the appointment with immediate effect of A. G. MORRALL, as assistant to the general manager; and A. P. SMIBERT, C.A., secretary and assistant treasurer. Mr. Morrall has been identified with Rolls-Royce in Canada for many years, mainly with the aero engine division and latterly as sales manager of the motor car division. Mr. Smibert, McGill University graduate in Commerce in 1942, and former RCAF wartime pilot, joined Rolls-Royce of Canada Limited in 1952, and was previously senior accountant of the company.

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Retailers Soon To Ponder GAW Sales, Credit Effect

Retail economists are about to be ushered into the imposing presence of a sales problem as new as today's headlines, as different as a man biting a dog.

What they find out about it may have an important effect upon future retailing expansion and sales policies.

The problem: What are the probable effects upon retailing of paying guaranteed annual wage benefits to industrial workers?; and what should be done by the business to adjust to any GAW-triggered changes in the consumer market?

Of course, it's no certainty the so-called guaranteed annual wage will become so universal in Canada as to be a major influence in the national retailing picture. But it is a distinct possibility. And retailing will want to be prepared.

It seems certain, at least, that GAW will become a dominant fact in certain local retail markets. If the Canadian auto industry follows the lead set in the U. S., Windsor and Oshawa retailers will be serving such markets.

The first consideration: Is GAW a good thing or a bad thing for the economy generally? If it's good, retailers will benefit in the long run. If bad, they will suffer.

Economists' findings here will govern long-term plans.

If a major retailer expects GAW eventually to hamstring industrial expansion, he will plan accordingly. He will act far differently if he expects it to aid — or at least not hamper — business expansion and sales stabilization.

More specifically, retailing will want to know:

—Will the assured income of GAW persuade hourly-paid industrial workers to open up more charge accounts, do more financing of big durables?

—Will GAW mean fewer defaulters on instalment buying, thus tending to lower financing charges?

—Will GAW stimulate consumer spending by industrial workers who previously slashed expenses to provide a nest-egg when laid off?

One Canadian retail organization already has reacted to the annual wage fever being run by North American labor leaders.

Dorwin Shopping Centre of Walkerville, Ont., a suburb of Windsor, has sent out a letter which says:

"Whether you as a store-owner are interested in locating at Dorwin or not, we would like to bring to your attention the significant impact we feel the guaranteed annual wage will have on the Windsor-Detroit area.

"You have perhaps felt . . . that the dependence of this locality on the success of the automotive industry is a risk for the retailer.

"The . . . development of GAW . . . has, we feel, placed Windsor and Detroit in the most enviable position, retail-wise, on the continent."

This is the comment of one organization in the area where GAW is first being applied.

It doesn't answer the question concerning the long-run effects of GAW on the whole nation's consumer spending. Only experience and a lot of thought and research is going to supply this answer.

World Wheat Look Hinges On U. S. Producer Ballot

The next and climactic act in the complex drama of international wheat marketing unfolds in the U. S. June 25.

The actors will be the U. S. wheatgrowers. They will vote on whether they want continuance of marketing quotas.

What they decide will do much to determine:

—Future U. S. policy on price supports and therefore on wheat marketing.

—The trend of world wheat prices.

Canadian wheat farmers — in fact all wheat farmers and all wheat consumers — will be vitally affected by the direction the U. S. wheatgrower decides to travel June 25.

These are his choices:

—He can vote for marketing quotas thus continuing quotas on the wheat he will be allowed to deliver; ensuring price supports at 75%-82.5% of parity for the next crop; and, generally, continuance of the present setup so far as wheat is concerned.

—He can reject marketing quotas, leaving no limitation on delivery; resulting in the possibility that price supports will be only 50% of parity; and changing the U. S. Government's approach to wheat marketing problems.

Vote Affects World

Since the U. S. currently is the world's No. 1 wheat exporter, the stone the U. S. wheatgrower casts June 25 will send ripples through all world markets.

Present betting: the referendum will approve marketing quotas by the required two-thirds majority.

This will tend to maintain the status quo in the world wheat picture.

If quotas are voted out, there's strong suggestion that the U. S. price support setup will be revised to give wheatgrowers supports at 65% or 70% of parity (about $1.55-$1.65 bu.). This is expected to prevent any sharp prolonged break in world wheat prices.

It may enable Canada to maintain the price line at around $1.70 for No. 1 Northern. Canada has been the world's major proponent of holding the line on wheat prices, despite large surpluses which did and do still exist. The U. S. has been inclined to subsidize exports (which Canada can't afford to do) and cut prices (which Trade Minister C. D. Howe suggests is panicking).

In the last 18 months we have lost ground relatively in world export markets. But at least part of the reason is our shortage of top-grade wheat to fill demand (The Post, June 18). Our surplus has been slimmed slightly by last year's crop failure.

Part of the background: Latest U. S. Department of Agriculture estimate of that country's current wheat crop is 845 million bu. That would be the smallest crop since 1943, 13% below last year, 27% under the 10-year average.

It's partly the result of stricter production controls made necessary by high guaranteed wheat prices.

Whatever the result of the U. S. referendum, it's not expected to have any immediate effect on the energetic and successful U. S. wheat disposal program.

That program was supposed to have no effect on regular wheat markets. But Canada now concedes there have been disruptions, has complained to the U. S.

Aeroquip Opens Toronto Plant

This month a new company was formed to serve Canadian aviation. It is Aeroquip (Canada) Ltd., a subsidiary of Aeroquip Corp of Jackson, Mich.

The parent company's flexible hose lines, reusable fittings and self-sealing couplings for aircraft, industrial, automotive and farm use, are not new to Canada. They have been distributed here by Prenco Progress & Engineering Corp. of Toronto.

The decision to move into Canada was prompted by heavy orders coming in from the expanding Canadian industry.

ST. LAURENT, QUE. Municipality has sold $2,400,000 3% bonds to a syndicate of McNeil, Mantha, Inc. and the Banque Provinciale du Canada at a net cost of 3.786%. Funds will be used for various public works. Net funded debt $3,808,769 at Dec. 31, 1954, population 36,500.

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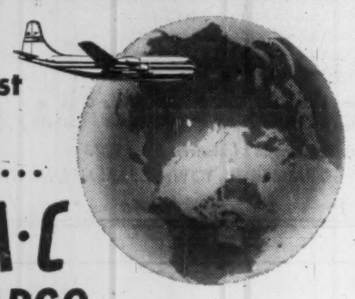

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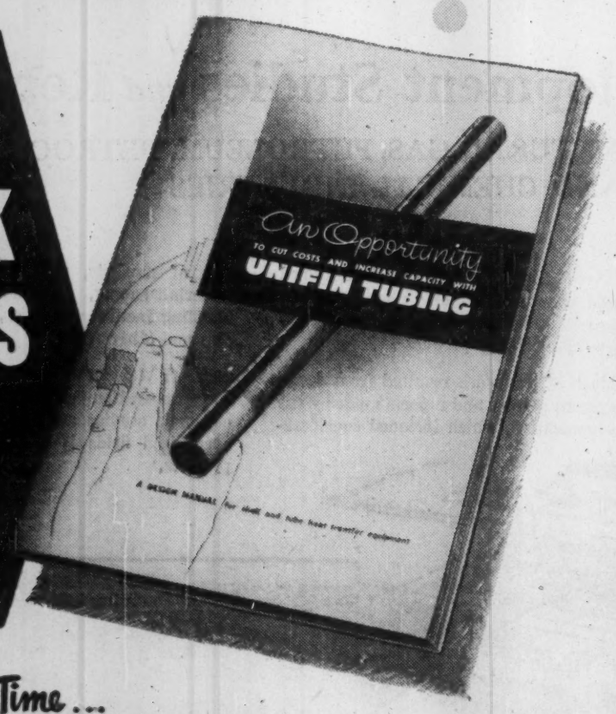

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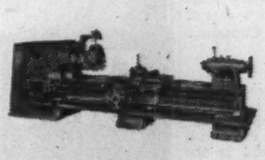
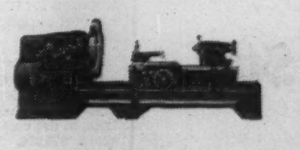
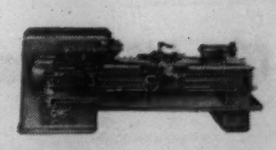

20" X 96" "Master" Engine Lathe


23" X 28" Expansion Bed Gap Lathe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LABOR ROUNDUP

By JACK McARTHUR

Dissidents Irk Union Bigwigs

UAW, Machinist Rank and Filers Ignore Leaders

Two of Canada's biggest unions were red faced this week.

Cause of their embarrassment: Unauthorized action on the part of some of their members.

The unions: CIO-CCL United Auto Workers and AFL-TLC Machinists.

On June 20, disgruntled UAW maintenance men at Chrysler in Windsor failed to report for work because of what they felt to be unnecessary delay in negotiations between themselves and the company. The stoppage paralyzed Chrysler production; dissatisfaction of a few hundred had put 6,000 out of work.

There was hope the informal strike—not authorized by UAW—would soon end; hope, but no certainty.

The maintenance men have caused a number of recent minor production stoppages. This week's was the most serious.

The Machinists' Union at mid-week seemed to have ended its troubles, at least temporarily.

They developed when union men representing employees at Orenda Engines of the Avro group, in Toronto decided to call a strike vote because of "down-grading" of pay resulting from Avro and Orenda layoffs.

Officials of the Machinists International apparently cracked down, called off the vote. Any strike would have been illegal and extremely embarrassing to the Union, now in negotiations with Avro and Orenda.

There was considerable significance in both situations.

For UAW:

Skilled trades members of UAW — and of some other big industrial union — are inclined to feel like the forgotten child. Most think they are underpaid in relation to other workers, some dislike the annual wage package being pushed by the UAW. They feel it sacrifices legitimate pay boosts for skilled trades in favor of GAW, which will be of most benefit to other auto industry employees.

For Machinists:

The large get-tough wing at Avro and Orenda continues to worry the moderate Machinists Union. The dissidents are led mostly by former Britons, who were members of militant unions in the Old Country.

In these situations there's a larger question of increasing importance to the leadership of most unions:

When unions cannot control the actions of their memberships, they lose face in collective bargaining. Companies logically ask why they should spend long hours to reach agreement on a contract when the labor leaders doing the talking can't give a reasonable guarantee their followers will abide by its terms.

Most major unions realize the validity of this argument. That's why Machinists' got tough at Avro and why UAW told wildcat strikers in the U. S. recently to get back to work, whether or not they were happy with the GAW deal signed with Ford and GM.

IUE Gains New Anti-Red Ground

A spade-calling hard-hitting union which has grown around 50% in the last two years is the anti-Red CIO-CCL International Union of Electrical Workers.

For IUE, anti-Communism is an almost religious crusade. Many of the IUE people experienced the yoke of the opposition, Communist-led United Electrical Workers, expelled from the CIO in 1949 and CCL in 1950.

IUE minces no words about its opinion of Communists connected with UE ("Communist goons") or its own major characteristic (its letterhead proclaims: "A CIO union in the electrical industry free from the domination of the Communist party").

It currently has about 7,000 dues-paying members with about 10,000 employees under contract.

The UE now has probably fewer than 20,000 Canadian members; the AFL-TLC International Brotherhood of Electrical Workers (which recently swept out its West Coast left-wingers) a little more.

At the moment, IUE, is feeling its oats following a number of triumphs or settlements which it regards as reasonably good:

RCA Victor: IUE won a June 17 vote of about 350 workers in the Prescott, Ont., plant. It defeated IBEW.

Canadian Westinghouse: The Union was certified at the Brantford plant last fall, signed its first contract after a brief recent strike (The Post, June 18).

Phillips Electric: IUE took the Brockville plant from UE in 1953, UE tried a counter attack this year but lost a 345-211 vote. The union now is in conciliation on its second contract.

S. G. Smallwood, Ltd.: IUE was certified this month at this Acton, Ont., plant after fighting off UE with co-operation from locals of three other CIO-CCL unions—the Packinghouse Workers, Steelworkers and Textile Workers.

Elsewhere, IUE recently signed its first contract with **Automatic Electric** in Brockville, which was originally the telephone section of Phillips; was certified at **Hallicrafters (Canada)** in Toronto with contract negotiations now proceeding; forced an IUE-or-no-union vote at **General Instrument Corp.**, F. W. Sickles Division, in Kitchener.

Not content to rest on its laurels, the union and its energetic president, George Hutchens, aim for four objectives:

—More sign-ups of unorganized employees. This will build IUE resources for further attacks on UE.

—Continued wearing away of UE membership.

—The guaranteed annual wage.

—Office worker sign-ups.

* * *

Limit Company GAW Liability

Not widely recognized is the inclusion of the principle of limitation of company liability in the annual wage-type contracts signed in the U. S. by Ford and General Motors.

The original CIO United Auto Workers annual wage plan called for unlimited liability. If a company fell on bad times and GAW payments became an intolerable burden, there would be only two things possible: Go bankrupt or persuade the Union to alter the terms of its contract with the company.

But the Ford and GM deals limit company liability to the 5c hr. to be contributed to trust funds from which payments will be made.

And if, under this setup, the funds are depleted, liability for layoff payments decreases accordingly. The lower the level of the trust funds sinks, the smaller the payments the companies must make to men it lays off.

In future years the Union may try to have this section of the contract changed. But, for the moment, it eliminates a principle of the original Union plan which was a nagging worry to management and many economists.

The three-months strike of 260 members of the CIO-CCL United Auto Workers at Holmes Foundry in Sarnia showed signs of being near settlement at mid-week.

Holmes — which turns out motor blocks for Ford—and the UAW reportedly were close together. Original argument which triggered the strike concerned the work week. UAW wanted a cut from 48 hours to 40 with no take-home pay reduction.

UAW contends the larger issue is automation, says automation has enabled Holmes to boost production and cut employment.

Some Hope Glimmers Through Black Textile Labor Clouds

Storm clouds still darkened the textile labor scene this week — but there was one faint glimmer of hope where, last week, there had been none at all.

It was still too early to decide whether the gleam would turn into a silver lining for the hard-pressed textile business. Neither it nor its workers can afford business-damaging strikes.

Last week a strike appeared imminent at York Knitting Mills plants in Woodstock and Toronto (The Post, June 18).

But an 800-man walkout was averted at the last minute when the company and the CIO-CCL Textile Workers Union decided to call on Louis Fine, the Ontario Government's top conciliator, for a last try at settlement.

Master conciliator Fine will step into the case June 27.

The fact that company and union could agree on the request for Fine's services suggests there might yet be grounds for compromise.

York would like to reduce wages to better its position in a desperately competitive field. The Union has adamantly refused to agree to wage cuts for its members.

If there's a chance of the fight at York being settled short of a strike, the same chance may exist in other bitter textile negotiations. A half-dozen disputes are either deadlocked or near deadlock on wage questions.

Textiles still rates as the industry where labor-management negotiations are longest and words hottest.

Progress Slow In GM Talks

The broken-off guaranteed annual wage negotiations between CIO-CCL United Auto Workers and General Motors of Canada in Toronto, London, Windsor and St. Catharines looked ready to resume at midweek.

The other GM-UAW contract, covering Oshawa production workers, was the subject of continuing negotiations. It's understood the guaranteed annual wage — already won by UAW in the U. S. — hasn't yet been discussed.

Meanwhile, there was more speculation on whether GAW could or would be integrated with Canadian unemployment insurance if GM eventually should sign an annual wage pact.

The developments here:

—It was suggested that comparatively small GAW payments, like those to be made in the U. S. by Ford and GM, might not be regarded by the Unemployment Insurance Commission as earnings. Thus a man might draw such payments, plus unemployment insurance.

—The question came up: What if a Canadian company paying annual wage benefits did not give them to an employee when laid off but only credited them to him, to be drawn when he gets back to work? Could he then get unemployment insurance, thus circumventing the law?

The Government was mum on both possibilities, continuing its policy of saying nothing about the legal complexities of GAW.

Town, Company Values Differ

From Our Own Correspondent

FREDERICTON — Glengarry Cottons, Cornwall, Ont., owners of the former Canadian Cottons Gibson mill in nearby Marysville, has placed a $5,000 valuation on all its holdings in the town.

In a letter to the town council protesting this year's close to $31,000 tax bill, secretary D. R. Gormley in an affidavit estimates the value of the 11 acres of land, four-story brick mill, dam and water tower at that figure.

The town assessors revalued the mill and other property this year at $905,556, and despite the company's claim this figure is unfair, council decided to hold firm on its tax levy and not allow a reduction.

Replying to a letter from Mayor P. G. Long asking if the company would offer the property for sale for $5,000, company officials said no reasonable offer would be refused.

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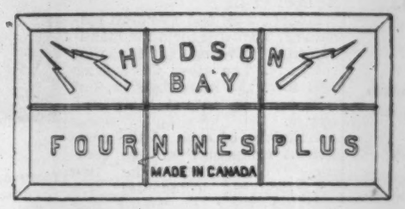

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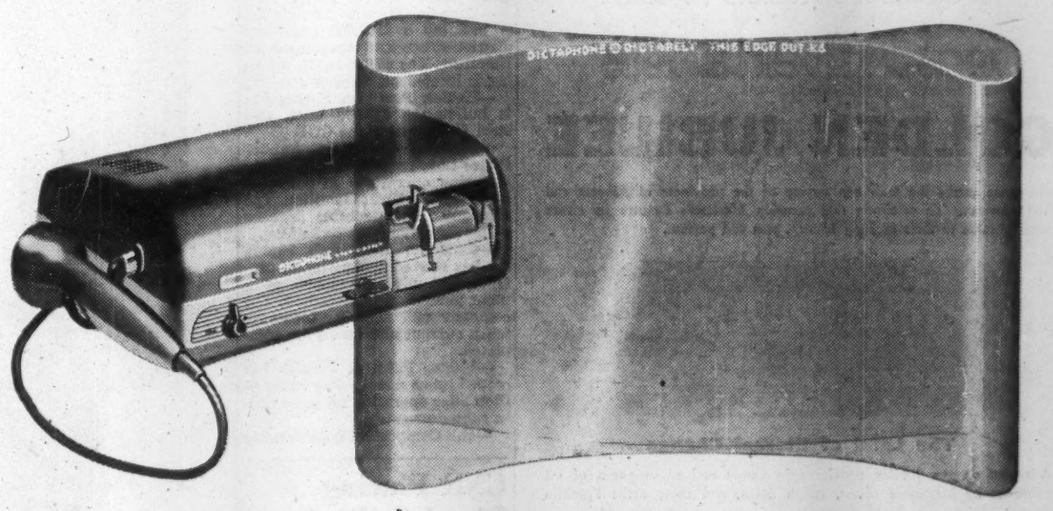

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- ☐ Canada's Changing Population
- ☐ International Investment for Development
- ☐ Canada's Trading Problem
- ☐ The Outlook for Wheat

Merge UK-Owned Quintuplets

New Firm, Standard-Modern Tool, Will Expand

Stavely Iron & Coal Co. of Britain, which has acquired five Canadian machinery companies over the last few years, has now merged them into a single unit for integrated operation, product development and expansion of both Canadian and U. S. markets.

Standard-Modern Tool Co. is the new concern. Under the presidency of H. J. A. Chambers, it merges: Modern Tool Works, Toronto; Standard Machine & Tool Co., Windsor; A. R. Williams Machinery Co., Toronto; A. R. Williams Machinery Western Ltd., Vancouver; and Pacific Tractor & Equipment Ltd.

Modern Tool and Standard Machine & Tool will form the manufacturing division of the new company. The other three firms will form the sales division, but will continue to use their own names.

Activities of each of the component companies will be completely integrated. The two manufacturing companies will combine their operations and provide service in their respective areas. A. R. Williams and Pacific Tractor will continue to act as distributors for other manufacturers as well as serving in Standard-Modern's sales division.

MR. CHAMBERS

The sales division will now be in a position to provide the combined knowledge, experience and facilities of the whole group to clients.

Both divisions will draw on the knowledge of Stavely Coal and Iron overseas. The British company includes Geo. Richards & Son and the James Archdale Co. Archdale is a world leader in machine tool manufacturing and automation. Automation is expected to play an increasingly important part in Standard-Modern.

Development and Research

Product development and research are one of the main objects in the merger. The new company has formed a department for those purposes. Rationalization and standardization of new product development in an enterprise of such size is expected to make for economies as well as greater effectiveness.

"The companies forming Standard-Modern will now also bring to Canadian manufacturers the benefits of the combined machine tool knowledge of Britain, Europe, United States and Canada," says Chambers.

"And the strategic location of our Windsor plant, we are sure, will lead to the further development of the American market."

He also cites as advantages of the merger the economies of centralized control and unification of strong manufacturing and selling organizations.

"Our staff will receive wider opportunities for advancement and new jobs are being created by the expansion of our interests.

Standard-Modern Tool already has a plant expansion program under way. A $900,000 plant addition at Windsor has been started for the manufacture of machine tools and dies.

Chambers has been president of Standard Machine & Tool since 1946. He was born in England, but has had a long career as an engineer and executive in Canada, where he received his engineering training.

Other members of the board will be: A. R. Davidson, vice-president; C. H. Kennedy, vice-president; C. A. Bell, A. Archdale and J. P. Hunt.

ANNOUNCEMENT

WESTINGHOUSE APPOINTMENT

D. C. MARRS

Mr. H. H. Rogge, President and Chairman of the Board, announces the election of D. C. Marrs as Assistant Comptroller of Canadian Westinghouse Company Limited. Mr. Marrs joined Westinghouse in 1936 and previous to this appointment was Operations Manager of Canadian Westinghouse Supply Company. With his new appointment, he re-joins the staff at the Company's head office in Hamilton.

Shawinigan Chem. Stakes More On U. S. Vinyl Resins Future

MONTREAL (Staff) — Forecasts of a sharply higher demand for safety glass, especially from the automotive industry, are sparking an increase in the stake held by Shawinigan Chemicals Ltd. in U. S. production of vinyl resins.

Shawinigan Resins Corp., which is jointly owned by Shawinigan Chemicals and Monsanto Chemical Co., will build a large new plant at Trenton, Mich., to raise its output of butvar. At the same time, Monsanto will put up a new plant on an adjoining site to convert this vinyl resin into the plastic sheeting which becomes the interlayer in safety glass.

Plans for the Shawinigan Resins facilities are still being drawn, so final cost estimates are not available. But they will involve several million dollars.

Both new plants are expected to be operating by the end of 1956.

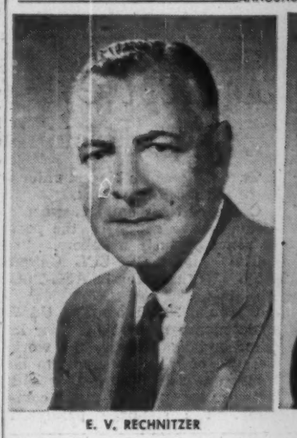
Explaining the move, Shawinigan Resins' General Manager W. R. Elliott pointed to recent predictions by the automotive industry of a 10-million car annual production rate by 1960. More cars, with a greater glass area, will require the increased capacity, he said.

In addition, there was a growing demand in the export, TV implosion plate, and decorative laminates markets. Monsanto had boosted Saflex production facilities at Springfield, Mass., by 20% in 1953 and 50% in 1954, but these will not be enough to meet the demand foreseeable by 1960.

The choice of Trenton was influenced by Monsanto's decision to start producing Saflex there, as well as moving future manufacture of other Shawinigan products nearer their markets.

Monsanto picked Trenton because of proximity to the automotive and glass laminating industries, and the importance of dispersing manufacturing facilities.

ANNOUNCEMENT



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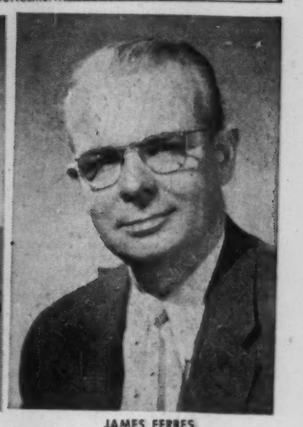

JAMES FERRES

At a recent meeting of the Board of Directors of MacLaren Advertising Co. Limited, Einar V. Rechnitzer was elected President and James Ferres was elected Senior Vice-President and Managing Director. Both have more than 25 years service with the Company.

Appropriate action was taken to enlarge the Board of Directors and C. Edmund Brown, F. Percival Gill, William F. Harrison and Scott Stockwell, all of whom have had from twelve to twenty-five years association with the Company were elected to the Board of Directors. M. D'Arcy MacMahon continues as Treasurer and a Director.

These New Industry Projects Plan Now For Later Growth

Industrial projects costing more than $1.5 millions are planned or under construction in the Hamilton area. Most are leaving room for future expansion.

Here are some of the major developments reported by the Hamilton Industrial Commission:

—Thorold Concrete Block Co. is building a $200,000 plant in Saltfleet Township for the manufacture of a lightweight building block. The 33,000-sq.-ft. plant will employ about 25 persons with provision made for expansion on a 13½-acre site.

—Canadian Petrofina is preparing a seven-acre site in Hamilton for construction of a $500,000 bulk storage plant. The plant, planned as a distribution centre for Southern Ontario, is expected to be completed in September.

—Van Wilson Equipment has a 20,000-sq.-ft. plant at Aldershot, Ont., nearing completion for the fabrication of school buses, truck bodies and delivery vans. The seven-acre plant site also provides extra outside storage space.

—Canadian General Electric Co. is building a $500,000 one-story district office and warehouse in Hamilton. The 65,000-sq.-ft. building is located on a seven-acre lot.

—Hi-Bek Precision Spring Co. is building a $25,000 brick and steel factory near the CGE plant.

—Superior Craftsmen Rubber Plates Ltd., recently began manufacturing operations in a rented building in central Hamilton. The company manufactures rubber plates for corrugated containers.

—Canadian Pittsburgh Piping Co. has started production of prefabricated piping systems at a plant purchased in Hamilton. The company will employ 60 persons when current alterations are completed.

—Master Paint & Varnish has moved into a new factory in Hamilton after operating for some time in rented premises.

—Gill Composite Containers has rented space in the Canada Coach Co. garage at Dundas. The company is planning to go into production of a new patented container for the shipping of returnable bottles.

—George H. Jackson Ltd., has purchased the Grimsby Builder's Supplies property in Grimsby for the manufacture of light metal products.

—Canadian Canners is planning a $50,000 storage warehouse in Grimsby.

—Peninsula Lumber Co., also in Grimsby, is building a new office and showroom.

CNR Placing Diesel Orders?

MONTREAL (Staff) — Canadian National Railways is believed to have placed very large orders for new diesel locomotives.

The Financial Post is informed that some 170 units will be built, around 77 coming from Montreal Locomotive Works, 73 from General Motors (Diesel) Ltd. and 20 from Canadian Locomotive Co.

It's a major lift for the builders. And it will boost sharply the size of CNR's cost-cutting diesel fleet. At the end of 1954, this totaled 615 units, with another 68 on order, and diesels played a key role in raising the system's operating efficiency.

Canadian National is going ahead fast on the changeover from steam. In 1954, 46% of its freight service was diesel-powered, and diesel locomotives accounted for 60% of its total yard switching hours. Only 5% of its passenger train mileage was dieselized, but this was expected to be increased to about 25% by mid-1955. Acquisition of passenger locomotives, specially equipped for train heating, marks the newest phase of CNR's program.

Warehouse Job Contract Awarded

MONTREAL (Staff) — Pentagon Construction Co. has been awarded the contract for building a modern finished goods warehouse in Magog, Que. for Dominion Textile Co.

Work started last week on the two-story, fireproof building which will have 150,000 sq. ft. in floor space. The building is scheduled for completion by next Dec. 31.

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GOLDEN JUBILEE

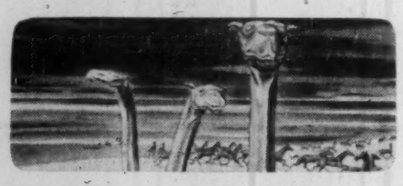
This year marks the 50th anniversary of the provinces of Alberta and Saskatchewan. To celebrate this occasion Maclean's devotes its entire June 25 issue to their exciting history, past and present.

The Land of Eternal Change

A report on the Jubilee provinces in words and seven pages of oil paintings by Maclean's editor, Ralph Allen, and cover artist Franklin Arbuckle.

The Settling of the West

Seven pages of rare photographs have been uncovered in the dusty archives of the west and bound together in this anniversary album to show a strangely turbulent and tender love affair—the union of a very young people with a very ancient land.



These are Saskatchewan camels, circa fifteen million BC. They grazed on the prairies in the days before the ice ages.

You'll meet them as bit-players in the billion-year-old scientific drama, How the Prairies Were Made, by Fred Bodsworth, with four page-size paintings of pre-historic times by Bruce Johnson.

AND ALSO IN THIS ISSUE OF MACLEAN'S

• BLAIR FRASER reports on the politics and politicians that keep the west in the news • ROBERT COLLINS asks What Would the West Be Like Without the Gopher?... or without the Calgary Stampede?

Plus all regular features as Maclean's pays tribute to The Alberta-Saskatchewan Jubilee.

June 25 issue MACLEAN'S *on sale now at your newsstand*

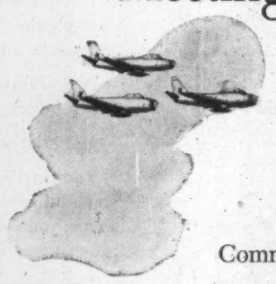
A MACLEAN-HUNTER PUBLICATION

Do we actually know where to face Communism?

If you could use reprints of this message for friends, staff, or associates, just write Dept. AD.

Photographed especially for Canadair by Karsh

Meeting Communism's Physical Power Overseas



Whenever our airmen scramble to their Sabres on the airfields of France and Germany, they never know when it may be for a fight for their lives . . . because only minutes away lie the fringes of Communism's might.

They, and all NATO forces, realize the sheer weight of power the Communists possess, ready to erupt at a second's notice.

We dare not under-estimate the dread Communist strength . . . or falter in the resolution that holds it in check today . . . to falter is to die — to stand fast will be victory.

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ANNOUNCEMENT

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JAMES G. THOMPSON

Standard Tube and T. I. Limited, Woodstock, Ontario, is pleased to announce that Messrs. John D. Judge and James G. Thompson have been elected to the Board of Directors of the Company.

Mr. Judge has had broad experience in the tubing field and is President of Tube Reducing Corporation of Wallington, New Jersey, and a Director, among other companies of American Metal Products Co., Detroit, Michigan.

Mr. Thompson is Assistant Secretary-Treasurer of Standard Tube and T. I. Limited and General Products Mfg. Corporation Limited, and a Director of Supertest Petroleum Corporation, Limited.

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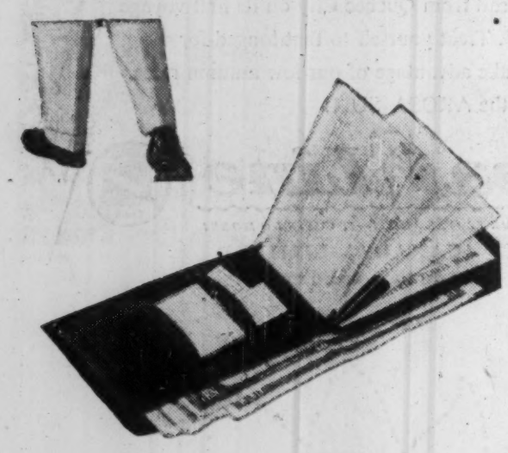

Don't take chances!

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127-3

Luxury Apartments for Sale Plan of Toronto Builders

Toronto's first "super de luxe" apartment house on a co-operative ownership plan will be started shortly.

The palatial building will cost about $3.2 million, for a tentative 90 suites and four penthouses, or an average of about $34,000 a unit. Resident owners will pay yearly charges "approximately only one half the annual rent which would be payable for an apartment in Toronto of similar character."

The building will be constructed for the suite-takers by B. Perini & Sons Canada Ltd., Toronto, and Industrial Engineering Co., both located at Toronto. N. J. Zaro of New York, an expert on co-operative apartments, is working with them on it. Crown Trust will have a 20-year management contract with the co-operative owner-residents.

It will be city's finest apartment building, the sponsors declare. Every bedroom will have its own bathroom. There will be three elevators. Mail will be delivered to individual apartments instead of boxes at the door. An attendant will take the owner-resident's car from him at the door and park it in the basement.

Already, before any advertising, 23 suites have been spoken for, and three of the four penthouses. If demand continues at its present pace a second project may be undertaken.

The company in which the residents will own shares is still in the process of formation.

Through share ownership, residents will control who they have for neighbors. An undesirable resident could be put out, the company buying his shares out of a reserve. New purchasers of shares from residents who move out would be subject to the co-operative's approval.

Security For Owners

Proprietary leases will run for a long term of years so owners will have security. Under certain circumstances, leases could be canceled for sale of the apartments; residents could sublet when they were away on extended trips.

Minimum down payment of 50% on the value of a suite will be required, in the form of shares purchased, it's understood. Some residents will want to pay all cash, it is expected, but they will not be allowed to do so. A Canadian insurance company is advancing the mortgage money to the co-operative.

The project is designed for the man who now owns a house in the $50,000-or-up bracket, rather than the apartment dweller. His family may be grown up, he goes away for a period in the winter to Florida, in the summer to the northern lakes. He finds a big house too much responsibility; a small house is unsatisfactory because it means moving into the kind of neighborhood he is not used to. And a house means work and annoyances.

At 500 Avenue Road, he will have the pride of ownership but not the responsibilities.

The site is on the southwest corner of Avenue Road and Heath St., one of the city's exclusive sections just north of St. Clair Ave. The new $8 million head office tower of Imperial Oil will be situated nearby.

How It Will Look

Some other features:

One, two and three bedrooms per suite.

Most master bedrooms will have two washbasins.

The elevators are so arranged that residents will not have long walks down corridors.

Double partitions between suites will deaden sounds.

Residents who prefer to have their own laundresses will have a fully equipped modern laundry available.

There will be garbage incinerators on each floor.

Not only will there be an impressive entrance hall and canopy in front of the building, but each apartment will have a large entrance with a distinctive treatment.

Many apartments on the upper three floors will have log-burning fireplaces, as will the penthouse suites.

A zone control heating system with recessed convectors in each room, with a recessed space for installation of air conditioning.

Master television aerial.

Individual storage bins in the basement.

Ceiling height of nine feet on typical floors.

The contractors are committed to build the apartments when 65% of the stock has been sold.

Proposals are subject to the Ontario Securities Commission rulings because share sales are involved. The contractors will be bonded for the resident-owners protection.

A Crown Trust executive who has studied co-operative apartments in the U. S. says he does not believe the project can be copied successfully for medium income groups.

It is a luxury proposition, he says.

There are some co-operative apartment buildings in Montreal, perhaps a few in Toronto, and a number in Vancouver. At least one builder in Vancouver has made a specialty of them. In Eastern Canada, co-operatives seem to arise from tenants buying existing buildings from owners who are seeking a buyer.

New Davies Irwin Issue Sold To Acquire Old Firm

MONTREAL (Staff) — A $200,000 issue of Davies Irwin Ltd. 6% cumulative participating redeemable $10 par preferred stock has been sold by G. E. Leslie & Co.

A $125,000 issue of 4¼%-4¾% first mortgage serial bonds, due 1956-65 has also been sold privately.

Davies Irwin Ltd., is a new company which was incorporated last month to acquire assets and undertakings of Davies, Irwin, Limited, which has been in business since 1915. Company's business is primarily that of wax manufacturing and processing.

Waxes are manufactured and blended to meet customers' requirements. Users include pharmaceutical makers, polish and finish producers, electrical manufacturers and candle makers.

In addition, manufacturers of paste and other waxes are supplied with ingredients. Ancillary lines are also handled including turpentine, ingredients used in manufacture of confectionery, types of finishes and coloring for the leather trade, glues and adhesives, and water proofing compounds.

Plant is located in suburban Montreal, erected in 1939 and enlarged in 1942. It has about 22,000 sq ft floor space.

Proceeds of the two issues are for acquisition of the old company. Net profit in the year ended Mar. 31, 1955, was $58,115; 1954, $36,182; 1953, $41,272; 1952, $15,035; 1951, 23,770; 1950, $20,960; 1949, $20,861; 1948, $9,111; 1947, $37,393; 1946, $20,804.

For the 10-year period ended Mar. 31, 1955, average net profit was equal to $22,786 or about twice the annual fixed cumulative dividend requirements on the preferred stock.

Current assets exceeded current liabilities as at Mar. 31, 1955, by $299,215, leaving a working capital ratio of approximately six to one.

A participating dividend will be paid on preferred shares when in any fiscal year beginning Mar. 31, 1956, net profit exceeds $20,000.

This amount will be equal to the quotient obtained by dividing the excess over $20,000 by the number of outstanding preferred shares. Participating dividends will never exceed 20c per preferred share.

Outstanding capitalization includes $75,000, 4¼% first serial bonds, due June 1, 1956-61; $50,000 4½% first mortgage serials due June 1, 1962-65; 200,000, 6% cumulative participating redeemable preferred stock, $10 par; 30,000 no par value common shares, $95,000, class A $10 par stock.

Directors are Robert Berry, R. R. Johnston, and J. G. Porteous, all of Montreal. Mr. Berry is president and W. G. Botting, also of Montreal, is secretary.

Oakville Co. Gets Big U.S. Order

The U. S. branch of Isotope Products Ltd., Oakville, has received an order from a U. S. rubber company for more than $100,000 worth of gauge installation in three of its plants. The Canadian firm terms it "one of the largest orders ever issued for radioactive gauging equipment."

Each instrument in the new order is specially designed for installation on a two-calendar train producing tire fabric. Four separate measuring heads, each using the radioactive material "Strontium 90," are employed in each installation.

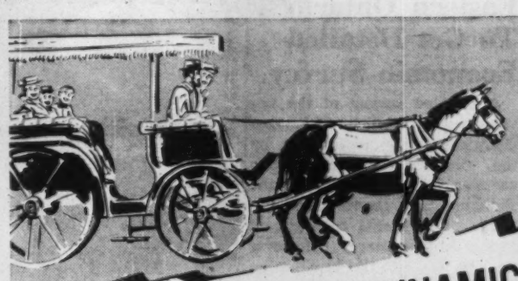
The gauge measures the weight per unit area of sheet materials. More than 100 of these gauges have been installed in Canadian plants for measurement and control of paper, rubber, plastic, glass, fibre, asbestos and other sheet products.

The gauges for the rubber firm are direct reading instruments with four ranges. A unique feature will be their ability to measure sheet profiles as well as afford continuous control of sheet weight.

The U. S. branch of Isotope Products at Buffalo has been in operation for just over a year. Company also has a 50% interest in a U. S. subsidiary with headquarters in Houston, Texas.

Getting Ahead

Astute businessmen plan for success; they read The Financial Post because it helps them make right decisions. Yearly by mail in Canada, $6; elsewhere $7 yearly.



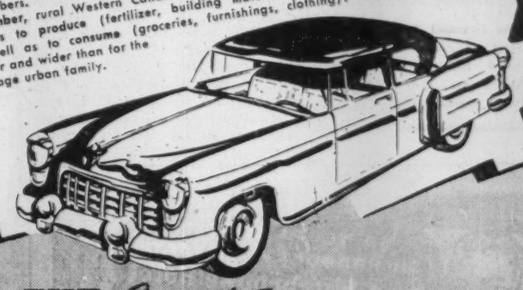
Changes in a DYNAMIC Market

Between 1931 and 1951, farm cash income in Canada rocketed from $450 million to $2,811 million — a six fold increase in a 20 year period. Including 1954, cash income per farm in Western Canada for the past 3 years has averaged over $5,000 — substantially higher than farm income in the Maritimes, Quebec and Ontario.

Living standards are rapidly rising to urban levels under the impact of mechanization, electrification and the application of science to every phase of farming. National advertisers find that year after year Western Canada's 2,000,000 rural population is one of their most responsive markets.

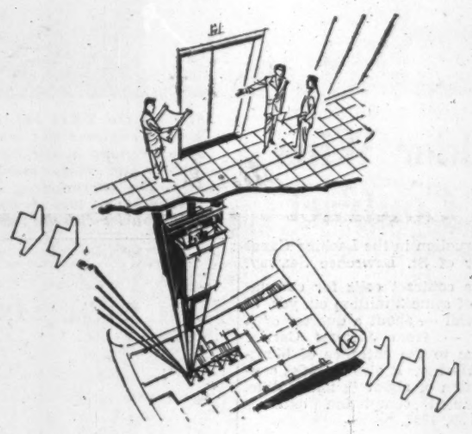
In a recent Canadian Facts survey, "Guide" subscribers had higher incomes, owned larger farms, more equipment and more new type products than non-subscribers.

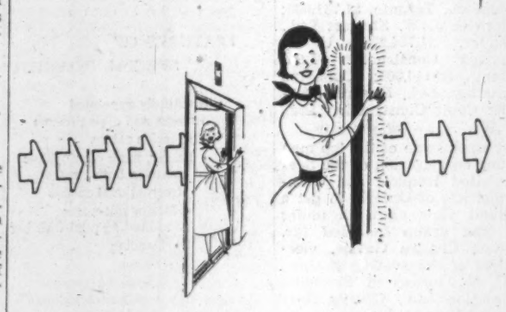
Remember, rural Western Canada is a double market where the farm family spends to produce (fertilizer, building material, modern farm equipment), as well as to consume (groceries, furnishings, clothing). Expenditures are larger and wider than for the average urban family.

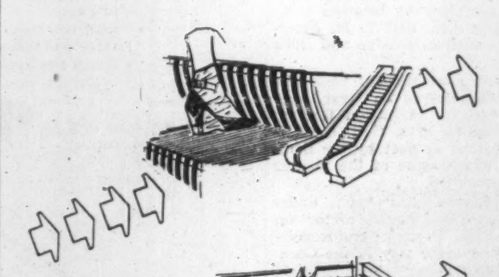


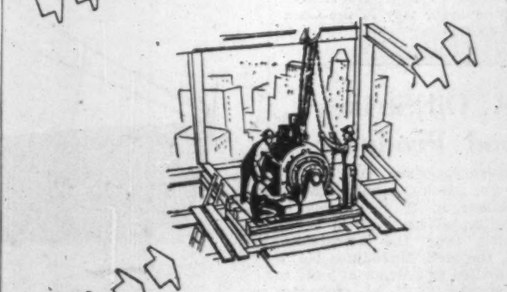
THE Country GUIDE

"FIRST IN INFLUENCE WITH WESTERN FARM FAMILIES"









directional arrows for VERTICAL TRANSPORTATION

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This is not as fantastic as it sounds. If you modernize an existing bank of 4 car switch elevators to completely automatic AUTOTRONIC® operatorless elevators this is what happens: The magic of electronic group supervision greatly reduces passenger waiting time. And automatic car operation reduces travel time. The result is 25% better service—*without adding the fifth car!*

Further, completely automatic AUTOTRONIC elevators end all concern about elevator operators. Each car has an "automatic elevator operator" on duty every minute of the day and night. Every "operator" is fully trained, with instantaneous reflexes that never tire or slow down. And every "automatic" operator saves up to $7,000 a car, each year—*making the modernization self-liquidating!*

traffic speeding elevator doors

It doesn't make good sense to combine high speed elevators with slow closing hoistway and elevator car doors. Seconds saved at each elevator stop can add up to hours of faster service in a busy building. Only Otis Electronic Elevator Doors—*with the electronic zone of detection*—have been designed to encourage people to step livelier—*and speed traffic!*

unmatched elevator door safety

It's always well to remember that every elevator entrance has two doors. First, the hoistway door; and second, the elevator car door. This is of utmost importance, because passengers in high speed operatorless elevators should always be protected from both doors—*for the highest degree of safety!* Only Otis Electronic Elevator Doors *with the electronic zone of detection* (as illustrated in phantom) provide double-door protection—as described in Otis booklet B-807. This unmatched safety—*obtainable only with completely automatic AUTOTRONIC elevators*—is available at only slightly extra cost above such standard equipment as rubber-edged contact doors, electric rays, and single-door protection.

stepping safely with style

Because those floppy new plastic women's overshoes can—*and sometimes do*—get stuck between the steps of escalators, Otis engineers have come up with a new safety step. It's cleated in a way to prevent such a mishap. It's now available for new installations.

delivering the promise

Otis construction skill delivers the promise that forms the basis of every Otis contract—*the world's finest elevatoring!* Elevator construction skill calls for men with an unusual combination of skills—those of a rigger, iron worker, machinist, electrician, carpenter, and sheet metal worker *plus* long Otis training in studying elevator parts, assemblies, functions, construction procedures, final testing and adjusting.

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Through The Financial Post, you reach travel-minded executives who, with their families and friends, travel widely throughout the year. They are Canada's biggest travel spenders.

Eastern Ontario To Get Detailed Economic Survey

A detailed survey of the development possibilities of Eastern Ontario is being undertaken by the Ontario Government this summer in connection with the Planning and Development department's regional development program. The survey will cover an area of some 10,000 sq. miles with a population of 650,000 persons.

The Eastern Ontario survey is planned as a pilot study to iron out procedures for eventual use in other development regions. Under the regional development plan, the province has been divided into nine areas with provision for $10,000 annual grants to each region forming its own development association and matching the government grant.

The survey will consist of an economic inventory of such items as power, raw materials, transportation, population, labor supply and markets and follow-up analysis of the data for use in plotting future developments in the region. The regional surveys, when completed, will be collected into a master survey for the province as a whole.

POST TRAVEL BUREAU

Where to go – how to go – where to stay

SOUTH OF TWO BORDERS, this Canadian traveler in Mexico explores the seventeenth-century town of Taxco. Like Granada in Old Spain, much of Taxco is built on a hillside and retains marked Moorish flavor in its architecture. The surrounding hills in the state of Guerrero are rich in silver, and these shops in the Mercaderes lure the tourist with the handiwork of local silversmiths.

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Come the leisure-pleasure way, by boat—or by rail—or over modern roads, by car. Season, June-September. Rates from $18 a day, with meals.
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Second Low Bidder Wins Seaway Lachine Contract

MONTREAL (Staff) — Miron & Brothers Ltd., Montreal, have been awarded a $1,768,900 contract for excavation and dike construction in the Lachine Canal sector of St. Lawrence Seaway.

The contract calls for excavation of some 2 million cu. yds. of material — about a quarter of it rock — from Jacques Cartier Bridge to the entrance of Montreal Harbor. It also includes construction of about ¼ mi. of dike. Scheduled completion date is Nov. 30, 1957.

Miron & Brothers bid was the second lowest of seven.

Announcing the contract award, Lionel Chevrier, President of St. Lawrence Seaway Authority, said: "Having regard to the nature of the work, its size and complexity, and the time within which it must be done, the Authority accepted the tender from Miron & Brothers Ltd., the second lowest bidder."

Other bids were from Northland Construction Co., Val d'Or, Que., $1,696,150; McNamara-Piggott-Peacock, Toronto, $1,781,600; Northern & J. W. Stewart Ltd., Vancouver, $1,784,200; United Waterways Constructors Ltd., Montreal, $2,146,000; Canadian Construction Ltd., Montreal, $2,369,900; Canit Construction Ltd., $2,711,500.

Last week some of the top men directing construction of the Seaway visited Iroquois and Cornwall districts of Ontario to get a first-hand view at work under way. The group included Mr. Chevrier; Charles Gavsie, vice-president of the Seaway Authority; C. H. Gordon of Pentagon Construction Ltd., George Rayner, president of Iroquois Constructors Ltd. and T. M. Smelrose, Canadian Dredge and Dock Co.

Opening of the St. Lawrence from Montreal to the Great Lakes to deepdraft navigation through construction of a 27-ft. canal is being done in part by the firms with which some of the visitors are associated.

Excavation has been under way in the Iroquois sector for some time. Dredging and excavation are under way in the Cornwall area.

"Freedom from Care"

Pete McGillen, leading authority on Ontario's outdoors writes:

"Here in Ontario is the answer to your fifth freedom—freedom from care. You'll find it in a vacation spent in this banner province of Canada the province that has the greatest appeal to holiday-makers. Get to know your own Ontario—you'll love it."

KOB*

How much do Ontario families value and enjoy the rich vacation Treasures of their own Banner Province?

The lure of Ontario's lake, river and forest areas, boating, fishing and touring delights, draws thousands of visitors each year from all parts of the continent.

And all these inviting opportunities are spread forth for Ontario families to enjoy—perhaps only a few miles from home.

Here's an exciting idea for holidays this year. "Know Ontario Better".

An hour or so in bus, train or motor car can bring you face to face with new tingling discoveries or rewarding experiences.

Send in the coupon below and see the wealth of opportunities awaiting you.

*KNOW Ontario BETTER IN '55

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PLEASE SEND ME A FREE ROAD MAP AND TRAVEL INFORMATION ABOUT ONTARIO.
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(PLEASE PRINT CLEARLY)
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POST OFFICE _____

B.A. Oil Strikes Good Producer

British-American Oil Producing Co., B-A's wholly owned subsidiary in U. S. reports an important oil discovery in Texas. Located near the Sweetwater field, the well, McJunkins No. 1, was drilled to a depth of 5,465 ft. and showed 22 ft. of continuous permeable sand. The well flowed at a daily rate of 390 bbls. of 41 gravity crude through a small choke.

B-A owns approximately 1,600 acres in this area and 10 more wells are planned for completion during 1955.

INTRODUCING THE BEAUTIFUL
AROSA SUN

Arriving at Quebec on August 3, at the end of her maiden voyage from Europe, the beautiful 20,000-ton Swiss-owned AROSA SUN is the newest addition to the Arosa fleet of trans-Atlantic ships. The newly-acquired vessel, already well known to travellers in the Mediterranean and the Far East, has been completely modernized and refurnished, and now offers unusually fine accommodation for 900 tourist-class and 60 first-class passengers. The AROSA SUN will sail from Quebec City on its first voyage to Europe on August 5. Treat yourself to that longed-for holiday in Europe! Take advantage of our low autumn rates. Plan now to sail on the AROSA SUN!

FEATURES OF SPECIAL INTEREST
- Beautifully appointed lounges and dining rooms
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- Larger, more comfortable cabins in both classes
- International cuisine
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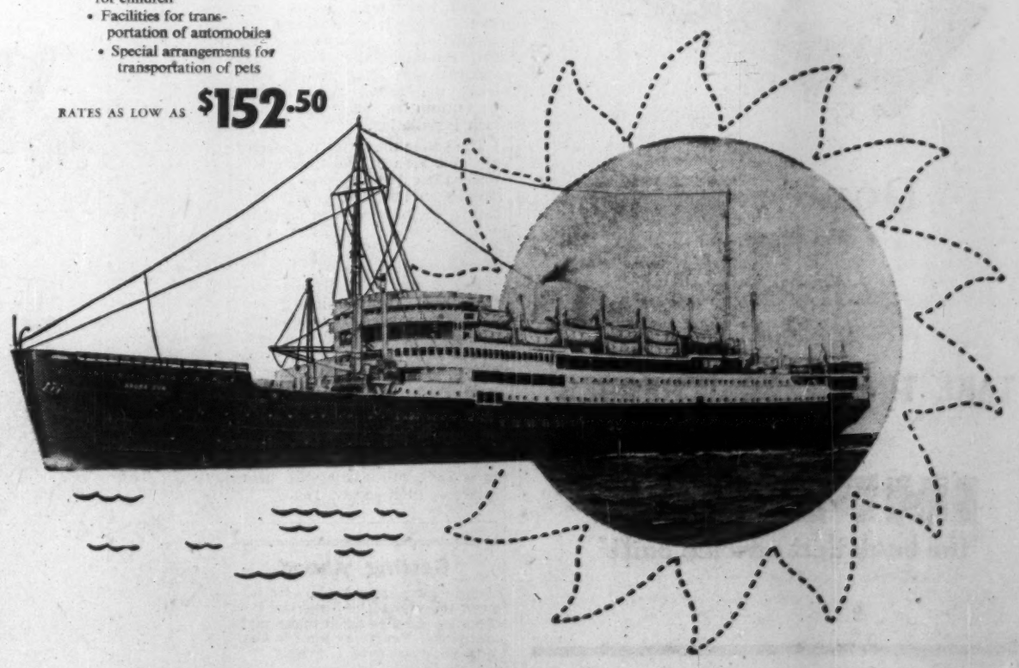
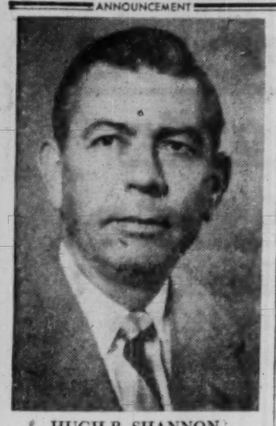


ANNOUNCEMENT



HUGH R. SHANNON

Hugh R. Shannon has been named new Vice-President and General Manager of Trident Drilling Co. Ltd., subsidiary of Bailey Selburn Oil & Gas Ltd., with headquarters in Calgary, Alta. His appointment is announced by George H. Sellers, President of Trident Drilling. Mr. Shannon formerly was Production Manager for the Southern Division of Carter Oil Co., the exploration subsidiary of Standard Oil of New Jersey.

Plan for Profit

For money-making information and ideas, use The Financial Post every week. It is Canada's most comprehensive business news service on investment and industrial opportunities, on how government moves affect you. Read The Post for facts that help you make profitable decisions.

How to Retire and Like It

For Activity, Interest, Don't Sell Bird Watching Short

Meet a "happily retired" man: D. S. M. Clark, born in Chatham, N.B., now a resident of Knockpatrick, Jamaica. His secret, a bit of woodworking, writing and social work, but chiefly bird watching. Here he discusses why the retired need activity and interest and how bird watching and a study of bird life can chase boredom. Mr. Clark entered the service of the Bank of Nova Scotia at Chatham. He served with the B.N.S. at Campbellton, N.B., Montreal, Toronto and Kingston, Jamaica. Following World War I service, he returned to the B. of N.S. at Saskatoon, thence again to Jamaica, where he was manager of Port Antonio, St. Ann's Bay and Mandeville branches, the last until his retirement 18 months ago.

By D. S. M. CLARK

Geriatricians seem agreed that when a man retires he needs some really absorbing interests to fill the vacuum left by the cessation of his daily work, which, all too often, has gradually and perhaps imperceptibly to the victim taken more and more of his time until all outside interests have been sidetracked and eventually completely excluded.

Such men (and I have known many of them, far too many) although they may have sufficient financial means to ensure a happy and carefree retirement, have made no other preparations to meet what must inevitably prove to be an entirely new way of life. Then suddenly, it seems to them, the retirement age has caught up with them and they find in their enforced leisure only an endless vista of dreary boredom.

It need not be thus as I know from personal experience. I was happy in my work as a bank manager but I am even happier in my retirement for I have enough interests to keep me comfortably busy. I do a bit of woodworking, a bit of writing, and sit on one or two committees connected with social service, but the interest which fills in all the chinks in time where boredom might otherwise creep in is bird watching and the study of bird life.

For years before I retired it provided one of my principal relaxations and now that I have more time to devote to it, its fascination grows. It has opened many other avenues which I am sometimes tempted to, and do, explore and in one instance has even involved me in the study of place names.

It is therefore a hobby I can confidently recommend to others who are retired, but don't get the idea that it is suitable for the elderly only. It is such an adaptable pastime that it is equally suited to the most active youth and during recent years has made tremendous strides in Canadian and American schools, so you may start any time and the earlier the better.

Practical Returns

I am told that the Royal Air Force College at Cranwell has recently placed bird watching on the list of sports, participation in a certain number of which is compulsory. Why? Because apart from its esthetic value it develops the powers of observation to a remarkable degree.

Don't think, either, that bird watching must necessarily involve a lot of wearying study. You may make anything you like of it. In its simplest form it involves no more than identifying the birds you see and enjoying their beauty of color and movement, and probably keeping a "life list" of the species seen. Many may never go beyond this but some will find their interest whetted and go on to the more scientific aspects of ornithology.

These students have an added incentive in knowing that their research may make a worthwhile addition to the aggregate of ornithological knowledge, for there is probably no other science where the amateur can contribute so much that is valuable.

One great advantage of birding, over many other forms of recreation, for the pensioner who has to make every cent count, is its inexpensiveness. In fact, after the cost of the initial outfit, which consists of a suitable pair of binoculars and a good field guide, it need not cost anything at all, although one will probably want to put up a bird bath or two and some feeding stations. These need not be elaborate and, if homemade, will cost little or nothing. Of course, as the skill and interest of the watcher progress he will probably want to add an occasional book to his ornithological library.

Your field guide will cost four or five dollars. I find Roger Tory Peterson's "A Field Guide to the Birds" extremely useful.

You can get binoculars from about $25 up but you will probably find it necessary to spend somewhat more. It is highly important that the glasses you choose should let in sufficient light to give a clear definition of the bird's colors and markings under any conditions. The larger the object lens in relation to the magnifying power the more light can enter, but there is also a corresponding increase in price. Coated lenses also add to the cost but are worth the extra in allowing still more light to reach the eye, thereby adding to the clarity of the objective.

How to Chose Binoculars

Glasses are marked with the magnifying power and the diameter of the object lenses in millimeters, thus: 6 x 18, 6 x 30, etc., a 6 x 30 should be suitable for most people and might cost around $50. Ample light is more important than high magnification and a 6 x 30 would give you more satisfactory results than a 10 x 30. A simple rule of thumb is to divide the second figure by the first and if the quotient is 3 or less they aren't likely to serve your purpose. Personally I would prefer a pair giving a result of 5 or more, although you may find 4 satisfactory. I use a 7 x 50 which I purchased for about $60 at a war-surplus store and I can recommend that size as the nearest to perfection I have found.

Any glasses are better than the naked eye and you may be lucky enough to have a pair already, even opera glasses, which you can use until your own experience tells you if you need better ones.

I will answer briefly a few questions and seeming obstacles which might arise.

I don't know one bird from another. How do I start? You probably know some of the common birds already, but in any case that is where the field guide comes in. Start with the first bird you see, get as full and accurate description as its movements will allow, then look it up in the text and illustrations. With a little practice it becomes easy and you will soon find yourself boasting to other birders of the rare migrants and "accidentals" you have seen.

How can I get in touch with other bird watchers? It is a considerable help to the beginner to have an experienced hand along with him or available for advice. Get in contact with the Canadian Audubon Society, your provincial museum or any local Natural History Society, any of which will be able to help you on that point. You will find, however, that if you introduce the subjects of birds into your conversation occasionally, there are a lot of other people who have the same interest.

I can't get out into the country. It isn't at all necessary. There are numbers of birds to be seen in the city, right in your own garden for instance, where you can offer them additional attractions by way of feeding stations, bird baths and by planting berry-bearing shrubs. Then, too, parks with wooded areas are sure to yield surprisingly good results. Central Park in New York is noted for the number of species to be seen there. In Toronto we have High Park and numerous wooded ravines, while if you can visit the countryside within a radius of say 20 miles of the city, you will find enough different species to keep you busy for a long, long time.

To sum up, watching birds will give you untold pleasure, many thrills and as much or as little, exercise as you want.

COMPANY REPORTS

To assist readers in appraising and comparing company financial statements, The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Construction

STANDARD PAVING & MATERIALS LTD., consolidated net profit rose by 2.9% to $1,000,766 in the year ended March 31, 1955 from $972,536 in the previous year. This excludes profit from sale of assets and investments of $4,643 and $29,308 respectively in each year.

The year has been one of the best in the company's history, G. G. Robinson, president and chairman, states. There is a tendency towards lower prices as a result of overproduction and excess capacity in the industry and the company is emphasizing efficiency and cost reduction.

The gravel plant at Waterford, built in 1927, was dismantled leaving only a small operation at the site to provide for local consumption. Sale of steel buildings has been discontinued because resultant income was not commensurate with the effort involved. The one-third interest in National Slag stands at $263,000 and results of first year's operations of this plant have been satisfactory, Mr. Robinson says.

Annual meeting will be held July 6.

CONS. INCOME ACCOUNT

Years Ended Mar. 31:	1955	1954
Net earnings	$2,492,214	$2,666,522
Less: Deprec.	492,734	659,962
Income taxes	998,714	1,034,024
Net profit‡	1,000,766	972,536
Less: Min. int.	4,468	80,767
Pref. divds.	.....	48,638
Com. divds.	427,428	316,985
Surplus for year	568,870	526,146

‡Excluding profit from sale of assets and invests. of $4,643 in 1955, $29,308 in 1954.

Earnings per Share and Dividend Record:		
Preferred:		
Before partic.	....	$156.53
Paid	....	1.25+0.50†
Common:		
After partic.	$3.51	3.08
Paid	1.50	0.87½+0.50†

†Participating dividend.
‡Special dividend.

CONDENSED CONS. BALANCE SHEET

As at Mar. 31:	1955	1954
Cash & invest.	$1,902,680	$2,110,182
Accts., etc., rec.	1,147,973	916,987
Tender deposits	165,069	153,976
Inventories	494,626	418,682
Total curr. assets	3,710,350	3,601,827
Misc. assets	472,463	265,803
Fixed assets*	1,745,688	1,796,118
Goodwill	248,281	248,281
Total assets	6,176,782	5,911,831
Adv. for tender dep.	163,866	148,423
Accts., taxes, etc., pay.	1,016,794	1,243,645
Prov. for repairs	233,811	219,733
Total curr. liab.	1,414,271	1,611,801
Minority int.	218,904	220,669
Capital stock	1,073,666	1,079,166
Surplus	3,469,941	3,000,195
*After depr. of	5,357,697	4,912,161
Working capital	2,296,079	1,990,026

Textiles

PATON MANUFACTURING CO. had a net prot of $98,249 in year ended April 30, 1955, up from a net loss of $103,245 in the previous year.

Surplus account was increased by $176,031 after taking a special dividend of $160,000 from a subsidiary. The special dividend was an accumulation of past years' earnings together with market appreciation on investments, F. R. Daniels, president, states in the annual report.

Under present tariff conditions, Canadian mills cannot meet British competition in finer fabrics where labor content is higher. Since 1946, Paton has spent $2,152,590 on replacement and modernization of facilities. However, there is a point where modern equipment, knowledge, daring and ingenuity cannot overcome the advantages of a low wage-paying nation who also have the same facilities, he says.

Shareholders will consider cancellation of 5,512 7% preferred shares which have been purchased and doubling of authorized common share capital to 100,000 shares at special meeting in Montreal, July 6. There are 50,000 common authorized and issued at the present time.

INCOME ACCOUNT

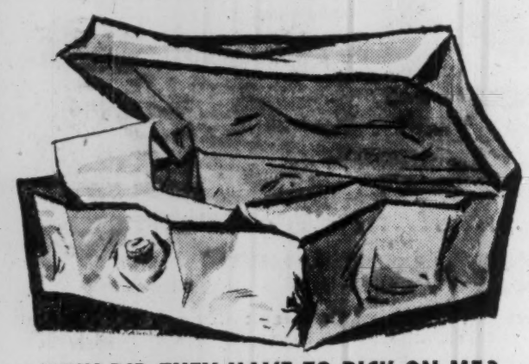
Years Ended Apr. 30:	1955	1954
Net earnings	$306,287	*$37,219
Less: Depreciation	138,841	144,501
Bond interest	20,597	20,870
Income tax	48,600	†119,345
Net profit	98,249	103,245
Less: Pref. divds.	34,581	36,480
Common divds.	40,000	40,000
Surplus for year	23,668	*179,725

*Loss or deficit.
†Credit.

Times Bond Interest Earned:		
Before deprec.	14.87	.....
After deprec.	8.13	.....
Earnings per Share and Dividend Record:		
Pref.: Earned	$4.57	d$4.00
Paid	1.40	1.40
Com.: Earned	1.27	d2.79
Paid	0.80	0.80

CONDENSED BALANCE SHEET

As at Apr. 28:	1955	1954
Cash	$1,307	$234,092
Invests‡	290,322	104,646
Accts. rec., less res.	487,381	312,019
Est. tax recov.	.....	117,476
Wool advances	12,007	.....
Inventories†	963,672	569,364
Total curr. assets	1,774,689	1,338,197
Misc. assets	29,515	49,226
Inv. in subsids.	30,000	30,000
Fixed assets*	800,480	809,297
Total assets	2,634,644	2,226,720
Bank loan	162,000	.....
Accts., etc., pay.	198,286	63,529
Taxes pay.	59,223	6,685
Divds. pay.	17,524	16,026
Total curr. liabs.	437,033	91,546
Funded debt	672,000	699,000
Capital stock	879,960	966,540
Earned surplus	645,671	469,640
‡Mkt. value	330,300	144,000
*After depr. of	2,021,117	1,972,581
†After reserve of	300,000	300,000
Working capital	1,337,656	1,246,657



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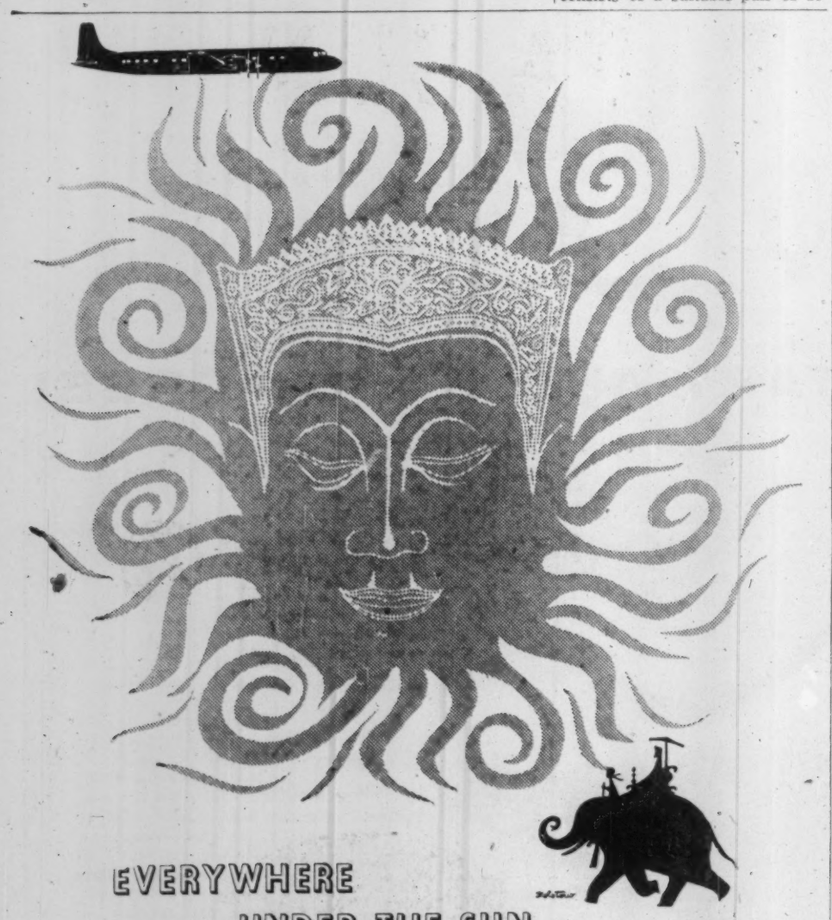

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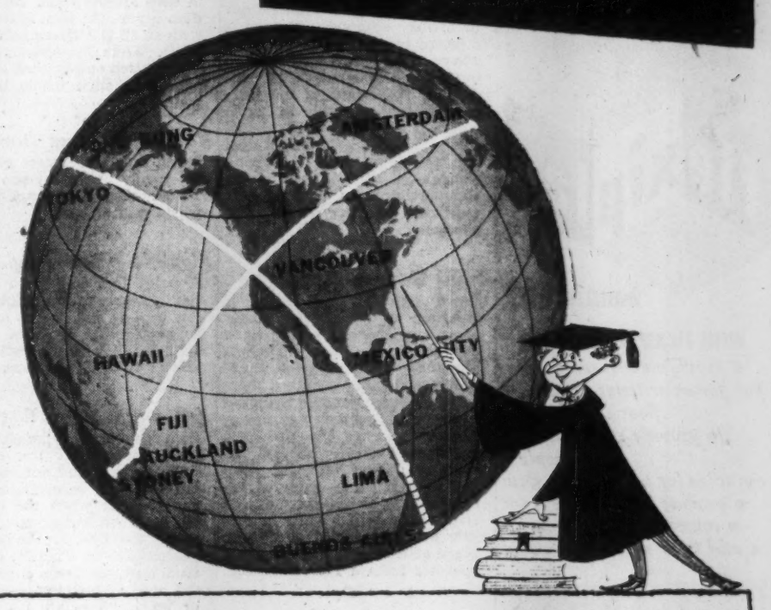

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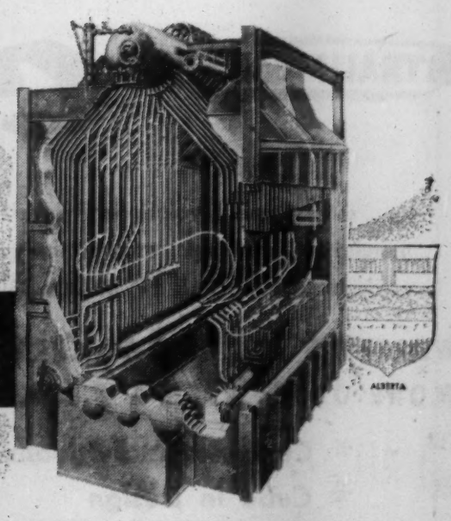

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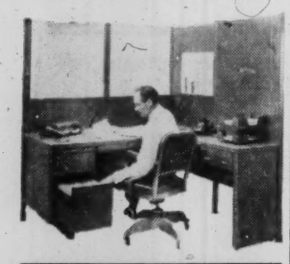

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What's New

New products, new uses, new ideas, new money-makers. We report them here and invite your contributions. Write to 481 University Ave., Toronto.

Mighty Megaphone

Type of electronic communication uses high power transmitters and sensitive receivers to send voice or other sounds over distances up to 200 miles without the use of intermediate repeater stations. Employs powerful transmitter which beams a concentrated signal from a giant parabolic antenna. Beam is directed toward the troposphere where it is "scattered" due to the change in atmospheric conditions. A portion of the scattered signal returns to earth where it is picked up by sensitive receivers. System said ideal for telephone and telegraph companies, utilities and other commercial users. Can be provided for as many as 36 voice channels.

* * *

Stops Garden Stooping

Lawn trimmer and edger is mounted on wheels for easier operation, and has simple hand adjustment to enable cutting at any angle from horizontal to extreme vertical. Permits a thorough job to be done on the grass edges which overhang flower beds or rockeries, etc. Has three adjustable wheel heights for varying depths between lawn and flowerbeds — and for the convenience of the operator. Of steel construction with rubber grip handle it has single 6¼-in. blade of tempered tool steel and operates from a 115-volt motor.

* * *

Screwdriver's Helper

Designed to cut down considerably on manhours and manpower as well as to prevent fumbling, new screwdriver has an attachment that picks up the screws and feeds them to the driver as they are needed. Consists of special head and bit, which is said to fit almost any standard automatic screwdriver. A long plastic hose is attached to a storage hopper and carries the screws pneumatically to the screwdriver head.

* * *

Golfer's Met. Guide

Here's another gadget for the golfer. It's a barometer geared to his special requirements. Predicts weather and course conditions, indicates when course may be wet, when playing conditions are good, etc.

* * *

Garden Tonic

Fertilizer with 38% nitrogen content, is said to release nitrogen continuously at a uniform rate for a longer period of time than any other nitrogen fertilizer. For turf, 10 lb. of the product are required for each 1,000 sq. ft. For flower beds, about 30 lb. per 1,000 sq ft.

* * *

Tubeless-Tire Fixer

There is now a gadget for making quick repairs on tubeless tires without taking the sealed in tires off the rims. No bigger than a pen, the item is threaded with small flat fibres rolled into cords. When dipped into a gummy solution and twisted into the hole they stick inside the tire wall.

* * *

Bounceable Bug Bouncer

Insect repellent is now available in handy polyethylene tube. Easier to carry, it's unbreakable, won't spill or leak.

* * *

Flexible When Frigid

A paint that is said to remain flexible even at temperatures as low as —51 deg C also provides a surface that is proof against acid, alkali, and the destructive effects of brine and ammonia.

* * *

Automatic Bank Clerk

Electronic device "reads" travelers cheques at the rate of 7,200 an hour and automatically punches the information onto punch cards when the cheques are returned for payment. Said to be the first workable bank equipment to "read" directly from a source document without the need of human intervention or an intermediate coding operation. Tests show that it works more than eight times as fast as previous methods and reduces error from 1% to 1/10th of 1%.

* * *

New Catalogues

PSC Applied Research Ltd., Toronto, an associate of **Photographic Survey Corp.,** has published an attractive, four-color brochure describing the activities of the company, a history of its growth, its products, personnel, etc. Gives details on the Type T232 Instrumentation Camera, the Automatic Tri-Film Processor, the Control Intervalometer, and the Aircraft Ice Detector and Automatic Ice Shedding Controller.

Bristol Co. of Canada, Toronto, announces a 26-page bulletin describing the complete line of liquid level gauges for indicating, recording, controlling and telemetering. Well illustrated it shows float-type, pressure-type, differential pressure-type and bubbler-type liquid and water level gauges, in strip and round-chart models. Air or electric controllers are available in several modes.

RAY ALTHOUSE

of Calgary, has been appointed president, Royalite Oil Co.

Royal Bank To Be Canada House Tenant

Royal Bank of Canada will be a tenant of the new Canada House, 5th Ave. and 54th St., New York. The new banking offices will house a special representative of the bank's business development department, but no banking operations of any description will be carried on there.

The step was being taken by the New York agency of Royal Bank so that it will be in a position to render more extensive and convenient services to visiting Canadian businessmen and others from all parts of the world who are interested in industrial and general Canadian development, said Hon. Ray Lawson, Canadian consul-general in New York.

GRANBY, QUE. School board has sold $130,000 3%-3½% bonds to a syndicate of Gairdner & Co., and Dawson, Hannaford Ltd. at a net cost of 3.637%. Net funded debt $1,671,000 at June 30, 1954, population 26,495. Provincial grant $61,800.

Britons Offer To Construct Atom Power Unit Anywhere

A group of British firms who already have a firm foothold in Canada have launched a new company to design and build atomic power stations in any part of the world.

Eight firms are providing the capital for Nuclear Power Plant Co. Its design headquarter will be Knutsford, Cheshire, U.K.

The sponsoring companies have subsidiaries or representatives in Canada in several cases. Any special plans of Nuclear Power Plant Co. for Canada have not been announced as yet.

Five of them have been working on Britain's first atomic power station at Calder Hall: C. A. Parsons & Co., manufacturers of heavy electrical equipment and steam turbines who have a Canadian subsidiary; A. Reyrolle & Co., an electric firm, associated with Parsons; Whessoe Ltd., steel fabricators; Strachan & Henshaw Ltd.; Alex Findlay & Co., structural engineers and bridgebuilders.

Of the other three, Head Wrightson at Co., who have a Canadian subsidiary, have wide experience in designs and manufacture of modern heat exchange equipment. They have been engaged for some time in design and construction of various types of reactors in Britain and abroad. They are designing and building the large heavy water plant in New Zealand.

Clarke, Chapman & Co. have wide experience in steam raising and allied equipment.

Sir Robert McAlpine & Sons Ltd. are a general contracting firm, with experience in power stations. A Canadian subsidiary has been in operation for some time now.

Activities of the eight co-operating companies in design and construction will be co-ordinated by the Parolle Electrical Plant Co. Parolle is jointly owned by Parsons and Reyrolle and has been associated with the British Atomic Energy Authority in design and construction of the Calder Hall project.

The companies should have lots of work to bid on in power-hungry Britain. There, a 10-year provisional program for construction of nuclear power stations has been outlined by the British Government. It would provide capacity of 1,500 to 2,000 megawatts.

—Two gas-cooled graphite-moderated stations (each with two reactors) to be started about mid-1957. These stations would come into operation in 1960-61.

—Two further stations would be started in 1958-59. These should all be in operation by 1963.

—Four more stations, to start perhaps in 1960, with a further four started 18 months later. These would come into operation 1963-1965.

Change Policy On Trade, Textile Men

Canadian policy on international trade needs revising to "bring it in line with the realities of the day," Brinley Taylor, president of the Silk and Rayon Institute, told the institute's 27th annual meeting in Toronto this week.

Canada is no longer an agricultural nation sending food and raw materials abroad to obtain money to buy consumer goods in foreign markets, he said. "The majority of Canadians now make their living from domestic manufacturing industries. It is time our tariff structure recognized this fact."

N. P. Petersen, O.B.E., president, Canadian Acme Screw & Gear, said: "Even if each of us, individually, gets in on a bargain due to dumping or price-cutting — Canada — therefore you and I — cannot afford to help with the destruction of a basic industry for the sake of a temporary bargain.

"It is my conviction that when we reach a 30 million population, many of our present problems will be solved. It is also a sure bet that we will have some other riddles to solve, and the solutions will be much more satisfactory if we demonstrate that free enterprise can do these things."

Man-made fibre, yarn and fabric industry, has been much reduced in recent years under pressure of heavy volume of imports. The industry in 1954 produced 90 million yards of fabrics, compared with 119 million in 1950, and employment had dropped from 18,600 to 15,900 in the past two years alone.

Mr. Taylor, vice-president, Courtaulds (Canada) Ltd., was re-elected president of the Silk and Rayon Institute for a season one-year term. G. L. Bruck, president, Bruck Mills Ltd., was also re-elected vice-president.

Form Alberta Outlet For Butler Buildings

A new company, Permasteel (Alberta) Ltd. has been formed to handle distribution and erection of Butler Steel Buildings in Northern Alberta. Head office will be at Edmonton.

Permasteel already has a number of contracts on hand, including a large office and warehouse for Alberta Steel Products, several bulk storage units for Imperial Oil, and warehouse units to be erected in Uranium City and other locations.

The new company will be under the management of Gordon E. Meneely, territorial manager of the Butler Co. for the past four years. John M. Heffernan is president, John B. Thomas will be a director.

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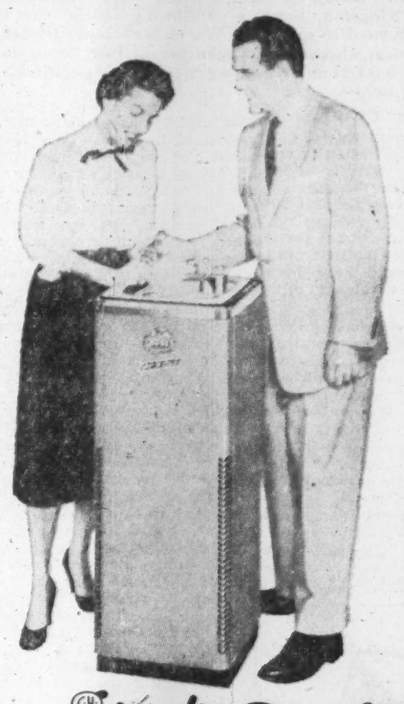

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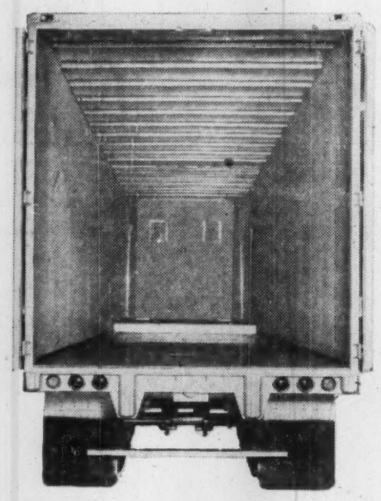

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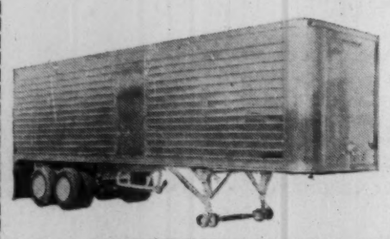
* *Customer Individualized Design*
* *Cube in Design*

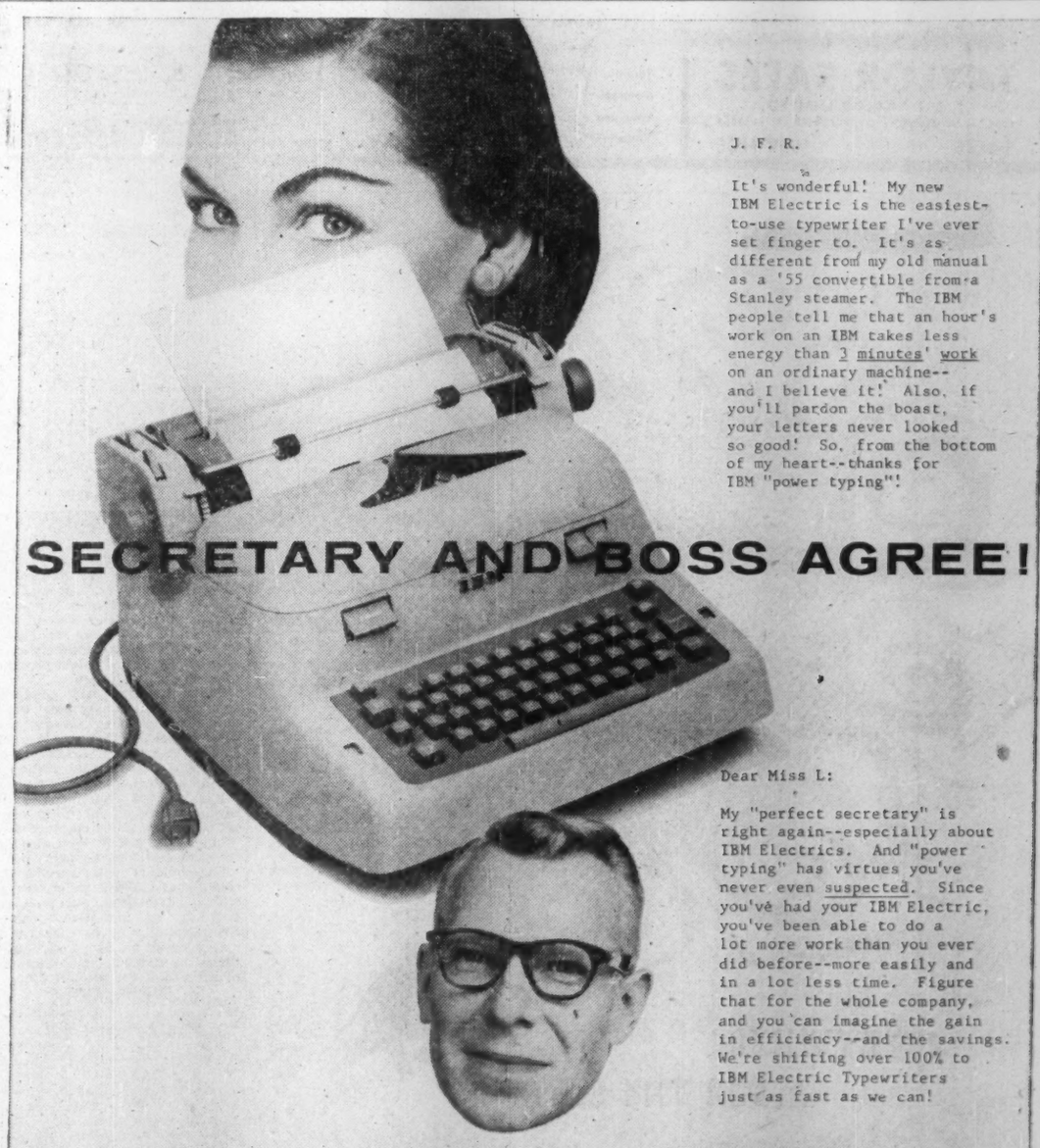


Ask for illustrated folder

TRAILMOBILE CANADA LTD.

HEAD OFFICE AND FACTORY BOX 70
STATION H, TORONTO

BRANCHES THROUGHOUT CANADA



J. F. R.

It's wonderful! My new IBM Electric is the easiest-to-use typewriter I've ever set finger to. It's as different from my old manual as a '55 convertible from a Stanley steamer. The IBM people tell me that an hour's work on an IBM takes less energy than 3 minutes' work on an ordinary machine--and I believe it! Also, if you'll pardon the boast, your letters never looked so good! So, from the bottom of my heart--thanks for IBM "power typing"!

SECRETARY AND BOSS AGREE!

Dear Miss L:

My "perfect secretary" is right again--especially about IBM Electrics. And "power typing" has virtues you've never even suspected. Since you've had your IBM Electric, you've been able to do a lot more work than you ever did before--more easily and in a lot less time. Figure that for the whole company, and you can imagine the gain in efficiency--and the savings. We're shifting over 100% to IBM Electric Typewriters just as fast as we can!

Only IBM makes a complete line of electric typewriters

Here is the IBM EXECUTIVE Electric. Only this EXECUTIVE produces letters that look as if they were printed. They make striking "first impressions" . . . they build prestige . . . they open doors. IBM makes 32 models including this EXECUTIVE and the STANDARD shown above . . . in many type faces and 7 handsome colors. For more information or a demonstration, call your nearest IBM office or write International Business Machines Company Limited, Don Mills Road, Toronto 6, Ontario.

IBM ELECTRIC TYPEWRITERS . . . OUTSELL ALL OTHER ELECTRICS COMBINED!

©1955, International Business Machines Company Limited

Another outstanding newspaper will publish Weekend Magazine

The Edmonton Journal

Effective January 7th 1956, The Edmonton Journal joins the Weekend Group, increasing Weekend's circulation to 1,450,000. This is 500,000 more circulation than any other Canadian publication.

With this new coverage of the rich and growing Edmonton market — Weekend again adds strength to its phenomenal impact on the entire Canadian market, reaching better than every second English-speaking home in Canada.

Weekend's tremendous circulation is of particular importance to color advertisers, for it gives them an opportunity to bring the full impact of color to bear on Canadian consumers in a way that no other publication can match.

Remember, too, you can use this circulation in Weekend Comics Group, with all the selling power of the relaxed, receptive audience of comics readers.

Weekend Magazine and Weekend Comics Group are today, more than ever, your basic advertising buy in Canada.

Member Newspapers:

CALGARY Albertan
CORNER BROOK, NFLD Western Star
EDMONTON Journal
FORT WILLIAM Daily Times-Journal
HAMILTON Spectator
KINGSTON Whig-Standard
KIRKLAND LAKE Northern Daily News
LETHBRIDGE Herald
LONDON Free Press
MEDICINE HAT News
MONCTON Times and Transcript
MONTREAL Star
MOOSE JAW Times-Herald
OTTAWA Citizen
PETERBOROUGH Examiner
PORT ARTHUR News-Chronicle
PRINCE ALBERT Daily Herald
QUEBEC Chronicle-Telegraph
SAINT JOHN Telegraph-Journal and Evening Times-Globe
ST. JOHN'S, NFLD. Evening Telegram
SUDBURY Star
SYDNEY Post-Record
TIMMINS Daily Press
TORONTO Telegram
VANCOUVER Sun
VICTORIA Sunday Times
WINNIPEG Tribune
The Standard

IN 1956 — 1,450,000 NET PAID CIRCULATION

Weekend MAGAZINE

By far — the biggest single selling force in Canada

CAREERS

This is Canada's national meeting place for executives who have positions to offer, and for those who have ability to offer

MECHANICAL
SALES ENGINEER

One of our clients, a well-known Canadian manufacturer of power transmission, conveying and elevating equipment, is looking for a graduate mechanical sales engineer to contact established clientele consisting of paper mills and asbestos mines in the Eastern Townships. This would be a permanent position with excellent earning possibilities for qualified man between 35 and 45 years of age. This is an addition to the existing staff who are aware of this vacancy. If you believe you are the man for this position, please send complete details of qualifications and past experience, which will be held in strictest confidence, to:—

A. G. TEMPLE, Montreal Manager,
INDUSTRIAL ADVERTISING AGENCY LTD.
1265 Stanley Street, Montreal, P.Q.

GENERAL MANAGER

For newly-formed Northwestern Ontario Development Association. To work under a Board of Directors in close association with local organizations and with municipal and provincial governments. Main responsibility to promote regional industrial development. Exceptional opportunity for active aggressive man to develop interesting career with good future. Confidential application with photograph to Box 998, Fort Arthur, by July 15, 1955.

WANTED

PARTNER — FINANCE COMPANY

Well experienced personal loan executive with $10,000 capital seeks inactive partner (partners) with $40,000 to open small loan office in Ontario town. Good return assured with excellent growth possibilities.

BOX 497
THE FINANCIAL POST, TORONTO

INVESTMENT MONEY AVAILABLE

for
Going Concerns
New ventures

purchase of minority or majority interests in operating companies

Send preliminary details to
BOX 504, THE FINANCIAL POST, TORONTO, ONT.

CAREERS IN ADVERTISING SALES

Do you have sales ability, initiative, ambition and determination to reach the top? If so, there may be opportunity for you at Maclean-Hunter.

Our steady expansion program is creating more positions for advertising salesmen who have management potential.

We are always glad to see men who have proven sales records.

Maclean-Hunter has a well-earned reputation for congenial employment. One in eight members of our staff belongs to our Quarter Century Club.

Our advertising salesmen work on a generous salary plus commission basis. Our company also makes substantial contributions to hospitalization, life insurance and pension plans.

We offer most attractive careers. All of our publication managers and other senior executives started their careers with us in a junior capacity, some even as messenger boys. Every member of our staff has the same opportunity to reach the top if he has ability matching his ambitions.

What have YOU to offer?

Why not write and tell us about yourself, your experience, education, age, marital status—and your ambitions? Better still, if you happen to be in Toronto at any time, drop in and see us.

We shall, of course, respect your confidence.

B. A. Lawless, Personnel Manager
MACLEAN-HUNTER PUBLISHING COMPANY LIMITED
481 University Avenue, Toronto 2. EMpire 3-5981, Local 208

Financial Analyst Wanted

University graduate wanted for Comptroller's department at headquarters near Toronto of substantial 3 plant enterprise. Work consists of preparing written reports on financial aspects of proposed expenditures and current operations for senior management; initially under close supervision but with progressively less as initiative proved. Logical, anaiytical mind essential. Reply stating age, education, experience, references, salary requirement.

Box 518, The Financial Post, Toronto

ENGINEERS AVAILABLE

The Federation has applications on file from a number of professional engineers and scientists who are seeking positions, or who wish to make a change. Employers who are interested will be placed in direct contact if they state salary range, type of experience and other qualifitions that are considered necessary. This is a service of the Federation and no charge is made to employers or members availing themselves of it.

THE CANADIAN FEDERATION OF ENGINEERS AND SCIENTISTS
206 Bloor Street West, Toronto, Ont.

WANTED — GEOLOGICAL PERSONNEL

Experienced graduate geologists and junior geologists for well-established, aggressive exploration company for underground and exploration positions in various locations in Canada. Reply stating experience, availability, reference, marital status and salary desired to Forbes Jackson, c/o Stevenson & Scott Limited, 100 Adelaide St. West, Toronto, Ontario.

FINANCIAL EXECUTIVE

Chartered Accountant, 36. University graduate, at present treasurer of medium size manufacturing firm, seeks opportunity for increased responsibility. Preferably Toronto area.

Box 522, The Financial Post, Toronto

EXPERIENCE AND CAPITAL AVAILABLE

Young man with sound experience in merchandising and sales wishes to join manufacturer, manufacturers' agency or jobber, in one of following capacities: 1. Straight employee. 2. Active Partner. 3. Active partner with option to purchase business immediately or in future.

Presently employed by manufacturer as sales representative. Interested only in Firm having reputation for high standard of ethics.

BOX 517, THE FINANCIAL POST, TORONTO.

CONTROLLER

A well established, progressive financial institution in Winnipeg, administering assets in excess of $200,000,000, offers unusual opportunity to the gentleman who can qualify. Applicant should be a Chartered Accountant—30 to 45 years of age — with proven ability to get along with people. Confidential applications should provide full particulars of experience, present position, age, marital status and salary expected. A photograph would also be helpful.

REPLY TO BOX 503, THE FINANCIAL POST, TORONTO

SENIOR FINANCIAL ACCOUNTANT

A very large Canadian industrial organization requires a senior accountant capable of supervising its centralized financial accounts work.

Candidates should be around forty years of age, have a C.A. degree or equivalent, with eight or more years' industrial experience.

Since direction will be limited a sound general knowledge of accounting, supported by direct experience on a fairly large scale, is an essential qualification.

This permanent position offers a good salary with attendant benefits including pension, and, moreover, demonstrated ability will lead to increased responsibility and remuneration.

Applications will be regarded as confidential, and should include all details of education and experience. They should be enclosed in an envelope marked "Senior Financial Accountant" addressed to:

PRICE WATERHOUSE & CO.
800 Royal Bank Building
2 King Street East, Toronto, Ontario

ADVERTISING AND SALES PROMOTION MANAGER WANTED

Here is an interesting position for a good man with ideas, imagination and drive to plan and execute country wide promotion program. This position offers real opportunity with a progressive, electrical manufacturing company, for the right man. Inquiries invited in confidence, interviews will be arranged. Please forward qualifications and photo to

BOX 523, THE FINANCIAL POST, TORONTO

Executive Available

Engineer, 37, diversified management experience, broad production, budgeting, accounting, industrial engineering and industrial relations background. Good organizer, able administrator with an affable and energetic personality. Minimum salary requirement $11,000.

BOX 520, THE FINANCIAL POST, TORONTO.

WANTED
For Sales Promotion

Prominent Automotive Manufacturer in Toronto Area has an excellent opportunity for young man in Sales Promotion field. His duties will also include supervision of advertising, a knowledge of the mechanics and practice of advertising would be desirable. He should also have the ability to develop and supervise sales training programs. This is a challenging opportunity for the right man. Salary commensurate with experience and ability; generous fringe benefits. Write giving full background details to

BOX 526, THE FINANCIAL POST, TORONTO

OPPORTUNITIES

AIRCRAFT FOR CHARTER

Beaver and Cessna 180 Seaplanes
EXECUTIVE AIR SERVICE LTD.
MALTON — ONTARIO
(E98-1 Acres)
Jack Sanderson, President — Colin Campbell, Vice-Pres. & Gen. Mgr.

DISTRIBUTORSHIP WANTED FOR LONDON

Have 4000 sq. ft. downtown space suitable for storage, light manufacturing, or parts assembly. Will organize and manage.

H. C. Forcht, 35 Croxton Road, London, Ont.

WANTED ONE OR TWO TOP QUALITY LINES FOR THE PROVINCE OF ALBERTA, BY ESTABLISHED MANUFACTURERS' AGENTS

We have excellent connections with Chain, Department Stores, Wholesale Grocery, Hardware Trade and Tobacco Distributors.
H. C. ANDREW LIMITED, 205—9th Avenue, West, Calgary.

DISPLAY ADVERTISING RATES

$7.70 per col. inch per insertion. (55 cents per agate line, 14 lines constitute one inch) Closing date—Copy must be in Toronto Office by Tuesday a.m. Display advertising in this section payable in advance.

CLASSIFIED ADVERTISING RATES

Flat rate, per word ..... .12c
Minimum charge $3.00
Each initial, figure or fraction, abbreviation and sign counts as one word; if a box number is desired, the words "Box 100 The Financial Post, Toronto," count as six words. When replies are mailed to advertiser, 15 cents extra is charged. Closing date—Copy must be in Toronto office by Tuesday a.m. Classified advertising is strictly cash in advance.

U.S. Navy Buys Otter Aircraft For Polar Trip

De Havilland Canada has found yet another customer for its Otter aircraft — the U. S. Navy.

Four are to be delivered in July. They are to be used on an Antarctic expedition this winter.

The Otter was chosen as the most suitable aircraft available for the rugged work to be done. Using wheels, floats or skis, it will carry a ton of cargo or fourteen passengers. It already has a good reputation for Arctic work both in Canada and Europe where the Royal Norwegian Air Force operate a number.

The Otters will be carried into the Antarctic on naval icebreakers and will operate into the heart of the polar continent, flying men, equipment, dog teams, and stores into the camps. They will also fly the expedition's reconnaissance operations.

CLASSIFIED ADVERTISEMENTS

FREIGHT RATE CLERK — Responsible young man required for freight rate checking and freight rate studies. Must have experience in freight checking with initiative and ability to carry out rate studies under limited supervision. An ideal opportunity for a career in industry. Contributory pension plan and medical insurance. Reply in confidence stating age, marital status, present salary, expected starting salary. Box 489, The Financial Post, Toronto.

FOR SALE

BROILER FARM for sale or lease, large plant, with buildings, homes for help and owner, processing equipment. Good returns on investment for many years, with established wholesale connections. Splendid opportunity. Owner retiring. Minimum capital required $15,000.00. Poultry experience unnecessary. Trained help available. Fatt's Poultry Farm Ltd., 4245 Douglas St., Victoria, British Columbia.

SUPERFINE PERSIAN CARPET, Kashan, Herati Floral design. 16 ft. 4 in. x 10 ft. 7 in. Niagara Falls. Telephone EL. 8-9692.

FOR RENT

MONTREAL BRANCH SALES OFFICE service at very low cost. Let us explain without obligation. MERCHANDISE BUREAU, 1103 Mayor Building, Montreal 2.

POSITIONS WANTED

SCIENTIST AND REGISTERED professional engineer with bush and mountain experience now employed as experimental physicist in applied research laboratory seeks employment preferably in the field to gain geological and mineralogical experience. Box 519, The Financial Post, Toronto.

PERSONNEL DIRECTOR

PRESENTLY EMPLOYED, desires to make change. Wide experience in labour negotiations and personnel administration. Box 521, The Financial Post, Toronto.

Business Opportunities

Gov't of India are interested in negotiating with the manufacturers, for supply from their own manufacture, during the year 1956, of imported fertilizers approximate requirements for which are ammonium sulphate 200,000 tons and urea and ammonium sulphate nitrate 20,000 tons and 10,000 tons respectively to the following specifications: Ammonium sulphate: (I) colour white crystaline (II) ammonical nitrigen percent by weight 20.6 (minimum) (III) moisture percent by weight 0.25 maximum (IV) Acidity percent by weight 0.03 maximum.

Packing in hundred kilos nonreturnable new single and exportable quality jute bags finely woven and strong enough to be delivered in sound and fit condition at port of discharge and for onward despatch to internal centres in India. Bags to be of uniform size and not less than 1 lb. and 10 oz. in weight.

Urea: Fertilizer grade prilled or shotted 44/45 percent nitrogen. Packing in fifty kilos alkathene or polyethylene lined jute bags. Filled bags to be of uniform weight.

Ammonium sulphate nitrate: Crystaline or granular containing not less than 26 percent nitrogen of which 6.5 percent should be in nitrate form and 19.95 per cent in ammonical form Packing in five ply paper bags with asphalt moisture proof inner lining and with jute overbags or alkathene or polyethylene lined jute bags. Filled bags to be of uniform weight not exceeding fifty kilos per bag.

Those of the manufacturers who are interested in the deal may please depute their authorized representatives at their own expense and without any obligation on the part of the Government of India, to discuss terms and conditions of supply at Delhi. Quotations which will form the basis of negotiations should be sent to the Secretary to the Government of India, Ministry of Works, Housing and Supply, New Delhi in advance so as to reach him not later than 14th July 1955. Suppliers should quote for supply in long tons (net weight basis) delivered C&F port of discharge/f.o.b. stowed port of exit. Negotiations with manufacturers will start at Delhi from 18th July 1955 onwards.

SUMMER HOME

Lake of the Woods
Kenora - Ontario

FOR SALE — De luxe 7 bedroom home of half-log construction, situated on picturesque Island 2 miles So. Kenora. Huge Stone Fireplace, running H.&C. water throughout, Hydro Elec. service; modern. Large two slip boathouse with Sun Deck and Game Room above. Also one 30' Cruiser, 14' Chris-craft, Sail Boat, row boat and Canoe. Maid's Cottage, covered barbecue and Diving Tower; all A-1 condition. Completely equipped and furnished throughout for home comfort. Ready for immediate occupancy and specially priced at $33,500. Write or Wire SUMMERHOME, Box 620, Kenora.

INDUSTRIAL BUILDING

46,000 Square Feet

West End location. Reinforced concrete construction. Floors will carry 300 to 350 pounds per square foot. Sprinklers. Light on four sides. Canadian National Railway. Suitable for any type of heavy manufacturing or warehousing.

WOOD, FLEMING & COMPANY LIMITED
Real Estate Brokers
Royal Bank Bldg., TORONTO - EM. 4-6161

CONSULT INDUSTRIAL PROPERTY SPECIALISTS

Whether you're buying, selling or renting a factory or warehouse, it will pay you to take advantage of experienced counsel.

- Buildings constructed for lease or purchase on site desired.
- Financing arranged.
- Present premises disposed of.

347 BAY ST., TORONTO — EMpire 3-6191
Member, Society Industrial Realtors (U.S.A.)
LYONS
INDUSTRIAL REALTORS
Established 1926

in MONTREAL

five minutes from the International Airport on Cote de Liesse Boulevard, next to many of the leading Canadian Company's plants.

WE are planning to build and lease to YOU

TWO STOREY modern office building with show-room, designed to suit tenant's requirements.

WAREHOUSE maximum floor space 150' by 800' — 20' high center ceiling — railroad siding on one side — shipping on the other.

CAN BE rented per section with space available in the office building (heated or unheated) as required.

OCCUPANCY within three months.

Lease can be arranged on a ten or twenty year basis.

A. AIRD & ASSOCIATES INC.
Consulting Engineers — Industrialists
5186 Cote des Neiges Road, Montreal. RE. 8-4734

Real Estate

A Dominion-wide market place for buyers and sellers of land, residences and commercial buildings.

FOR SALE

Modern brick and concrete building with Barrett type roof, ideal for Manufacturing/Warehousing purposes. Adequately equipped with offices, canteen and loading area and docks.

Consists of approximately 22,500 square feet on the ground floor, 6,950 square feet in the basement, and 13,784 square feet unexcavated in basement.

Fully equipped with automatic sprinklers and double windows. Road frontage on all sides. Ideally situated near centre of Quebec City.

BOX 496, THE FINANCIAL POST, TORONTO

INDUSTRIAL CONSTRUCTION

DESIGNED, ENGINEERED, CONSTRUCTED AND FINANCED TO YOUR NEEDS

BUILT FOR SALE OR LEASE ANYWHERE IN CANADA

In our complete service all your requirements receive careful consideration by our highly qualified staff of Architects, Engineers, and our Industrial Construction division. Our system of unified control governs all operation from site selection, through planning and construction, and availability of the completed structure on a Lease or Purchase basis. This efficient operation provides a type of service resulting in substantial savings of time and money to you. Our long list of satisfied clients is your assurance of the excellent service we have to offer.

You are invited to write for our Industrial Brochure which contains information about available sites in Metropolitan Toronto and further information about the type of service we have to offer.

AVAILABLE IN JULY — three 30,000 sq. ft. buildings with siding facilities in the Toronto area.

- CALEDONIA near LAWRENCE AVE. WEST
- NORTH QUEEN near #27 HIGHWAY
- DON MILLS ROAD near LAWRENCE AVE EAST

INDUSTRIAL LEASEHOLDS of TORONTO

33 BLOOR ST. EAST, TORONTO — PHONE WAlnut 4-6641

DO YOU NEED WORKING CAPITAL?

If so, we can sell your properties for cash and you may

Lease Them Back

ON FAVOURABLE TERMS
For full details contact
E. W. GLADSTONE
REALTOR
Member Toronto Real Estate Board
456 Spadina Ave., WA. 2-3154

IMMEDIATE OCCUPANCY — WAREHOUSE FOR SALE

Large warehouse with store, centrally situated in the city of Quebec, close to railway station. Six sprinklered floors comprising 90,000 sq. feet. Passenger and freight elevators. Office facilities and extensive loading platform areas.

BOX 525, THE FINANCIAL POST, TORONTO.

REGINA, SASK. NEW INDUSTRIAL PROPERTY

100,000 sq. ft. of land, 27,000 sq. ft. modern bldg. -Superb location. Attractive price. Enquiries treated confidentially.

W. CLARENCE MAHON
350 Western Trust Bldg.,
Regina, Sask.

FOR SALE OR LEASE

26,750 SQ. FEET

- NEW SINGLE STOREY INDUSTRIAL BUILDING
- FRONTING ON QUEEN ELIZABETH HIGHWAY
- 7 MILES FROM DOWNTOWN TORONTO
- ATTRACTIVE EXECUTIVE AND GENERAL OFFICES
- ADDITIONAL LAND FOR FUTURE EXPANSION

Detailed information on request

Ask for Mr. Astles
A. E. LePAGE
LIMITED REALTORS
320 BAY ST., TORONTO EM. 3-5854

EXCLUSIVE LAKEFRONT SUMMER PROPERTY

Grape Island, Lake Simcoe, Orillia. Lot 100' x 150', 100 yds. from mainland, nicely treed, dry, strict privacy assured. Cottagers' barge. Telephone, hydro. $14.00 ft., 180 Garden Ave., Toronto. LA. 5977.

FOR LEASE

20,000 square feet

Attractive modern one floor plant

15 miles east of downtown Toronto on #2 Highway

Early occupancy — Low lease cost

APPLY OXFORD PAPER PRODUCTS LTD., MR. MITCHELL
Toronto EMpire 8-4336

Industrial & Commercial buildings by specialists.

Commercial Leaseholds Limited offer a complete service on all details from original property survey to completed structure, including financing assistance. Complete project under one control by specialists in industrial design, engineering and construction. Quality construction, low costs, rapid completion, guaranteed.

Complete information, without obligation.
WRITE TODAY.

COMMERCIAL LEASEHOLDS LIMITED
HEAD OFFICE HAMILTON, CANADA

INDUSTRIAL BUILDINGS

LEASE — PURCHASE OR CONTRACT

from proposal — to production

Our staff of architects and engineers can design your building, provide a complete plant lay-out and engineer your entire material handling and production control methods.

Consult us with no obligation

FINLEY W. McLACHLAN LIMITED
GENERAL CONTRACTORS
195 FAIRBANK AVE., TORONTO
RU. 1-3506

ANNOUNCEMENT

NEW INGLIS-ENGLISH ELECTRIC VICE-PRESIDENTS

J. M. SOWRY W. A. MONTGOMERY

As an initial step in the general strengthening of the Companies' organization, two new Vice-Presidents have been appointed in the John Inglis Co. Limited and the English Electric Company of Canada Limited, it has been announced by Mr. H. B. Style, President. W. A. Montgomery has been appointed Vice-President, Commercial Development, and J. M. Sowry, Vice-President, Manufacturing.

Mr. Montgomery is a B.A.Sc. graduate of the University of Toronto and a member of the Association of Professional Engineers of Ontario. He joined the company in 1942 and was previously General Manager and Chief Engineer of the General Engineering Division.

Mr. Sowry has been Executive Assistant to the President since 1954 when he joined the Canadian organization after 22 years with the English Electric Company Limited, England, where he was Deputy Manager of that company's Stafford works. Mr. Sowry is a B.Sc. (Engineering) graduate of London University and an Associate Member of the Institution of Mechanical Engineers and of the Institution of Electrical Engineers.

...AND AT AMAZINGLY LOW COST

Yes, 296-pound furnaces are flying TCA from Vancouver to Calgary for only $15.69 each. And they represent just one of many diversified shipments that *regularly* fly TCA Air Freight —today's swift, dependable supply line for Canadian business.

Between many cities in Canada next day delivery is provided up to 1,500 miles, with second day delivery beyond.

CHECK AIR FREIGHT FOR YOUR BUSINESS.

Enquire at 32 Front Street, West, Toronto
Telephone: EMpire 6-9471

TRANS-CANADA AIR LINES

Trend of Business

Electric power capacity will grow 25% in four years beginning with 1954, Government study predicts. Increase 1950-54 was 44%. If rate of growth continues, generating capacity will have doubled in the 1950-60 decade.

Department store sales in May were 10% higher than same month last year. Gains were in Quebec 16%, Ontario 13%, Manitoba 12%, Atlantic provinces 11%, British Columbia 5%, Alberta 4%.

Money supply and active bank deposit — is up 11% over last year at latest.

Passenger car sales this year to May 1 up 17% over last year, in number of vehicles. Commercial vehicle sales down 2% in number (though up 8% in retail value).

New nonresidential construction put in place in first quarter this year 2% below last year. May be owing to weather conditions. Total new nonresidential construction in 1954 now also estimated 2% below last year though.

Chain store sales jumped 11% in April, compared with same month last year. Grocery and combination chains saw 18% increase, the largest gain.

Liabilities of business failures dropped 11% in first quarter from first quarter last year. Covers proceedings under Bankruptcy and Winding Up Acts, a different set of figures from Dun & Bradstreet.

Investment income of all kinds in first quarter this year totaled $901 millions, or 7% more than first quarter last year.

Interest, dividends and net rental income of persons in first quarter $1,952 millions, or 11% more than first quarter last year.

Personal saving in first quarter this year estimated at $434 millions, or 4% more than the same period last year. Personal saving last year was 22% below the year before. (These figures leave out farm inventory change, which is technically included in usual personal saving figures.)

Japanese sewing machines imported in first quarter number just over 4,000 or 16% more than same period last year.

Auto registrations increased 6% last year over year before, figures now show. They exclude Quebec. Newfoundland had the largest increase, 16%. Other increases were: British Columbia, 7%; Ontario, Alberta and Yukon, each 6%; New Brunswick, 5%; Saskatchewan, 4%; Prince Edward Island, Nova Scotia and Manitoba, 3%.

Montreal still Canada's leading manufacturing city at latest, a survey just completed shows. Toronto in second place, Hamilton third. Others, in order: Windsor, Vancouver, Montreal East, Winnipeg, Sarnia, Kitchener, London, Calgary, New Toronto, Welland, Brantford, Edmonton, St. Laurent, Leaside, Sault Ste. Marie, St. Catharines, St. Boniface, Peterborough, Shawinigan Falls, Three Rivers, New Westminster, Lachine and Niagara Falls. Based on value of products in latest year (1952).

Major Weekly Indicators

		LATEST WEEK	Week Ago	Month Ago	Year Ago
Department store sales (% ch. from year earlier)		+13%	+7%	—10%	+0.1%
Carloading, total	(cars)	107,750*	85,837	96,650†	86,684*
Eastern Canada	(cars)	70,008*	54,693	62,973†	56,235*
Western Canada	(cars)	37,742*	31,144	33,677†	28,449*
Iron & Steel (mfd.)	(cars)	1,796*	1,371	1,601†	1,252*
Ores, concentrates	(cars)	9,467*	7,277	5,756†	4,953*
Base metals		774*	577	984†	761*
Lumber, timber, plywood	(cars)	6,433*	4,921	5,404†	4,450*
Cement	(cars)	1,598*	1,298	1,377†	1,408*
Passenger car prod.	(no.)	10,630	10,611	10,658	....
Truck production	(no.)	2,349	2,389	2,740	....
Chartered banks					
Personal savings	($ millions)	5,521	5,521	5,496	4,217
Loans outstanding	($ millions)	4,144	4,106	4,109	5,079
N.H.A. mtge. holdings	($ millions)	134	132	122	....
Bank of Canada holdings of securities	($ millions)	2,217	2,225	2,180	2,276
Short term govern.	($ millions)	1,367	1,374	1,354	1,555
Long term govern.	($ millions)	813	815	814	700
Other securities	($ millions)	37	36	12	22
Canadian dollar (U.S. cents aver)		101.581	101.568	101.439	101.891
Yield, 114 stocks		4.30%	4.35%	4.42%	5.14%
Dom. Bond yield index ('35-'39=100)		95.4	95.1	95.7	100.9
T.S.E. industrial index		414.52	410.71	398.52	343.81
Bank Clearings					
Montreal	($ millions)	603	528	573	491
Toronto	($ millions)	743	637	780	599

*Ten-day month-end period.

Facts by the Month

	LATEST MONTH AVAILABLE	One Month Previous	Two Months Previous	One Year Previous
WHAT WE PRODUCE				
In all industries (Index)	250.6	247.8	238.1	236.8
In factories (Index)	258.0	253.8	242.2	249.9
Total nondurable goods (Index)	220.9	220.1	208.8	214.6
Food and bev. (Index)	200.4	190.8	192.1	202.1
Textiles (Index)	195.7	198.0	170.6	167.8
Clothing (Index)	153.7	150.1	141.2	160.6
Chemical products (Index)	284.0	283.0	276.9	284.2
Total durable goods (Index)	316.0	305.9	294.5	305.1
Iron & steel products (Index)	266.9	259.8	241.1	257.4
Primary iron & steel (Index)	336.2	308.4	260.3	254.0
From mines (Index)	263.5	265.2	201.4	171.1
Metals (Index)	125.2	126.5	122.0	119.0
Nonferrous smelting refining (Index)	262.3	248.1	251.2	226.4
Gold (Index)	104.0	108.7	102.4	103.2
—From farms				
•Hogs graded (000)	468	469	572	382
•Cattle delivered (000)	152	134	172	149
Flour (Index)	149.2	140.8	127.0	144.2
—From sea				
E. Coast catch ($000)	3,494	1,626	1,489	3,126
W. Coast catch ($000)	400	256	450	375
—From forests				
Newsprint (000 tons)	519	539	479	500
Pulp (000 tons)	824	864	760	787
—In powerhouses				
Electricity (Index) (seasonally adjusted)	291.0	287.0	289.9	253.7
WHAT WE SELL—				
Retail sales ($ millions)	901	794	839	929
•Dept. stores sales ($ millions)	93	90	81	85
Wholesale sales (value) (Index)	368.3	366.0	324.6	356.7
Mfrs. outstdg. orders (value) (Index)	80.7	80.9	81.3	85.7
•Pass. car sales (units)	46,002	22,084	17,810	39,221
WHAT'S ON HAND—				
Mfrs. inventories (value) (Index)	102.5	101.7	101.1	104.7
•Dept. store stock sales ratio	3.0	3.1	3.5	2.9
SPENDING, SAVING POWER—				
Labor income ($ millions)	990	984	1,025	950
Dividend payments (Index) (annual rate)	264.6	263.7	261.7	249.7
JOBS—				
Employment (Index)	105.6	105.8	109.1	106.6
Mfg. employment (Index)	105.5	103.6	103.2	108.3
CONSTRUCTION—				
Contract awards ($ millions)	290	181	189	229
FOREIGN TRADE—				
Exports ($ millions)	342	355	301	293
Imports ($ millions)	383	376	308	349
MONEY—				
•Money supply ($ millions)	5,593	5,432	5,347	5,066
•Cheques cashed ($ millions)	12,278	13,423	11,065	11,760
•Notice deposits ($ millions)	6,120	5,972	5,880	5,312
•Current public loans ($ millions)	3,779	3,709	3,684	3,777
Life insurance sales ($ millions)	270	266	230	217
PRICES—				
Consumer price (Index)	116.4	116.1	116.0	115.5

Index bases: production wholesale sales 1935-39=100; employment, payrolls, 1949=100; consumer price index, 1949=100; manufacturers' inventories, outstanding orders, Dec., 1952=100.

STRATEGIC MATERIALS—Production and Supply—

	Latest Month	Month yr. ago	Yr. to date	% chge. yr. to date
Steel ingots and castings (000 tons)	385	249	1,023	+28
•Primary copper (000 tons)	25.1	27.9	103	+14
•Nickel (000 tons)	14.8	12.9	57	+12
Cement (000 bbls.)	1,675	1,975	6,898	—2
Lumber (millions fbm.)	732	594	1,968	+29
Lumber exports (millions fbm.)	340	220	670	+65

•New items this week.

Date of issue for your file, The Financial Post, June 25, 1955.

BC Electric Plans New Preferred

MONTREAL (Staff) — Large new financing is being undertaken by British Columbia Electric Co.

An $11-million issue of 4¼% cumulative redeemable $50 par preferred stock, it's understood, will be offered next week by a group headed by Nesbitt, Thomson & Co., Wood, Gundy & Co. and Societe de Placements Inc. Price will be $49.50, to yield 4.29%.

Proceeds will be for expansion. B. C. Electric has estimated its total 1955 capital outlays at $46 millions.

This is the second new financing for the company this year. In May, it sold $15 millions of 3¾% 25-year bonds.

114 Stocks Yield 4.50% Average

Average yield on 114 dividend-paying stocks on the Toronto Stock Exchange compiled by Moss, Lawson & Co., on June 20 prices, was 4.5%, off .05 from the previous week. The current yield compares with 4.42% a month ago and 5.14% in the same week last year.

Here is the yield by various groups:

	June 20	Week Ago	Month Ago	Year Ago
	%	%	%	%
Common	3.93	3.96	4.09	5.08
Pfd. & A	4.21	4.23	4.30	4.84
Mining	5.45	5.56	5.54	5.96
Banks	2.97	3.00	3.07	3.50

Argus Value, Net Higher

Net income of Argus Corp. in the six months ended May 31, 1955, increased to $845,934 ($576,714 in the comparable 1953-54 period). Indicated assets value increased to $33.35 ($34.75 on Nov. 30, 1954, and $29.77 a year ago).

Pro forma balance sheet reflects the sale of $7.5 million 3½% notes and acquisition of 200,000 shares of St. Lawrence Corp.; conversion of 49,221 4½% preferred shares and redemption of the 779 shares remaining; and the issue of 274,026 common shares at $23 a share under a rights offering. The balance sheet shows 1,370,131 common shares outstanding compared with 850,000 six months earlier.

Income from investments was $1,051,858 ($703,194). Expenses rose to $205,924 ($126,480).

Argus has also acquired since November 50,000 shares of Canadian Breweries convertible preferred and 12,400 St. Lawrence Corp., bringing its total St. Lawrence Corp. holdings at May 31 to 213,725 when the 200,000-share purchase approved that day is included. Its interest in Canadian Equity & Development Co. amounted to $972,500.

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Physical inspection of the property can be arranged on application to the undernoted address.

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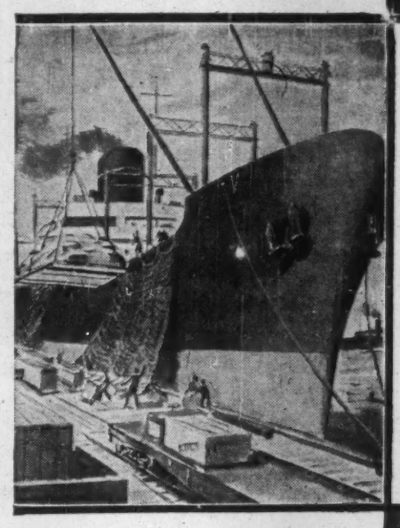

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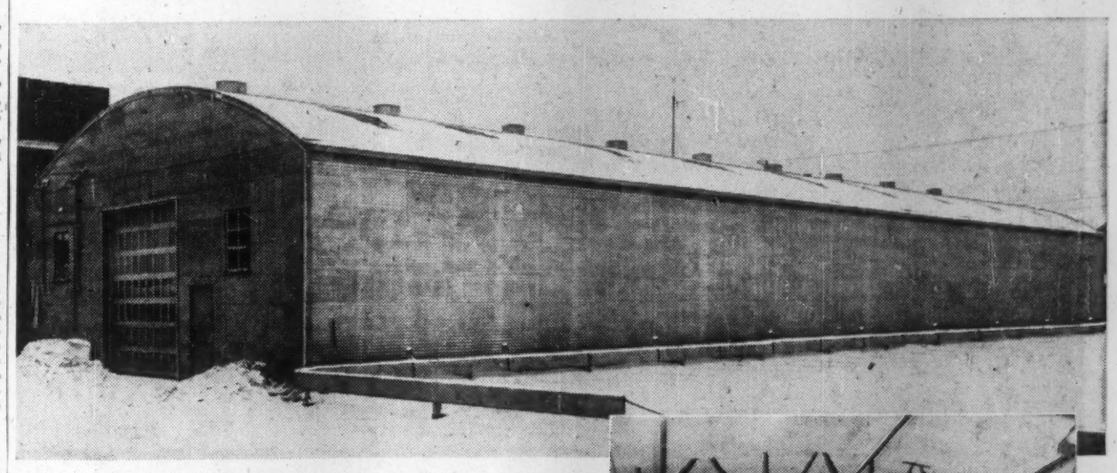
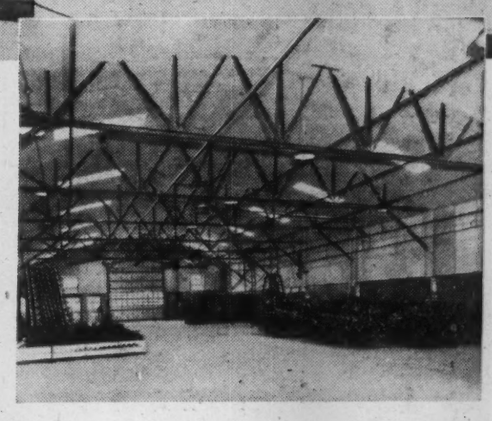


"After considering all other types, we decided on a Stran-Steel® building..."

says **A. R. McPherson,** *vice president, Strong-Scott Ltd., Winnipeg, Manitoba*



There are five reasons why Strong-Scott Ltd., manufacturer of grain elevator equipment, chose a Stran-Steel Long-Span 50′ x 144′. "The cost per square foot proved to be less than that of other types," writes Mr. McPherson. And fast erection gave Strong-Scott quick occupancy of a building the company needed for increased production. Mr. McPherson expects, and experience has proved, that maintenance costs will be negligible.

To quote further from his letter: "The high ceiling permits plenty of room for large equipment . . . the post-free clear span makes machine arrangement easy and facilitates material movement and storage." And, "We know that Stran-Steel buildings can be readily expanded for future needs." Mr. McPherson closes by saying, "*We are certain* that this type of building commends itself to businesses having space problems."

The views above show this 50′ by 144′ Stran-Steel building and its spacious, post-free interior, well lighted by endwall windows and skylights. The overhead door is large enough to admit the bulkiest vehicles and equipment.

If you are planning either a new building or an addition to an existing one, call the Stran-Steel distributor nearest you. Check with him on the advantages that the Long-Span 50′ or 60′ and the Stran-Steel Rigid-Frame 40′ offer you:

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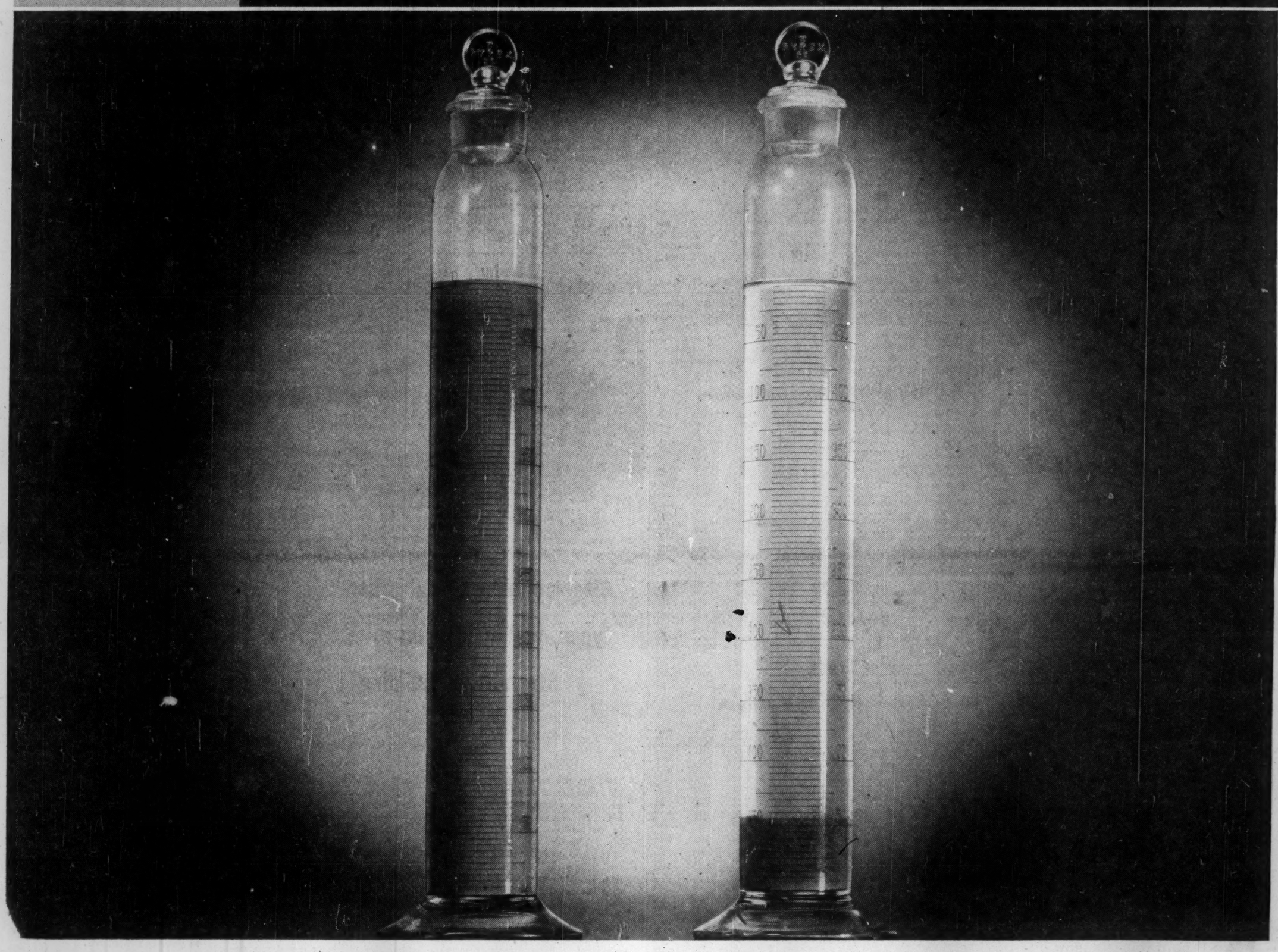

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To say that a little Separan 2610 goes a long way is quite an understatement. As little as one pound of this new chemical will settle 100 tons of suspended solids. In the picture above, the proportion was 0.02 lbs. Separan 2610 to a ton of solids. In just 30 seconds, the solids had settled and were ready for filtration and eventual recovery of the metal.

Separan 2610 is a step forward in the continuous search for lower-cost recovery of Canada's metals. But mining is only one of the many industries where Separan 2610 can prove valuable — another may be yours. If you have a process which involves liquid-solid separations, you may find it profitable to investigate Separan 2610. Many other vital chemicals are produced by Dow for use in mining, Canada's second largest industry. Dowfroth* 250, tested and developed in Canada by Dow Chemical just a few years ago, has set new standards for fast, low-cost separation and is now familiar to millmen the world over. Dow Xanthates . . . another mining chemical produced by Dow works hand in hand with Dowfroth 250 for fast economical recovery of metals. Dow Xanthates are pelletized, thus minimizing dust problems and are favoured in all parts of the world. For further information on these mining chemicals, contact Dow Chemical of Canada, Limited, 600 University Avenue, Toronto 2, Canada.

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He's Planning Attack On Parliament Hill

Social Credit Premier of British Columbia Will Start His Drive in Ontario Soon

(This is the first of a series on the Social Credit party in the West. Later articles will deal with the Alberta election, the prospects in the other prairie provinces and the basis of the Social Credit appeal.)

By MICHAEL BARKWAY

VICTORIA, B.C. (Staff) — There's a breezy, bouncing, fast-talking, American-style politician here on the West Coast who fully intends to move on to Ottawa at, or very near, the head of a Canadian government labeled Social Credit.

William Andrew Cecil Bennett, 55-year-old owner of a successful chain of hardware stores in the Okanagan Valley, this August will complete three years as Premier of British Columbia.

The next B. C. provincial election need not be till 1958. With Alberta's election out of the way this month, Social Credit's next immediate target, according to Premier Bennett, is the federal House of Commons.

Its appeal will include these main elements:

—A 90-cent dollar to help manufacturers and exporters.

—A free-spending program of public investment to boost Canadian development.

—A Bible-thumping campaign in the old-line Social Credit style.

—A pledge of "good, clean government."

—"A bulwark against socialism."

—The offer of a fresh, bright alternative to the "the worn-out Liberals."

—Enough financial orthodoxy to beguile business, coupled with enough unorthodoxy (or talk of it) to catch the dissatisfied.

—Surplus disposal through acceptance of sterling or by free gift to underdeveloped countries. (How this will be done is a total mystery.)

The Social Credit capture of federal power is envisaged, according to Mr. Bennett, as a two-stage operation.

Stage One is to win 90-95 Federal seats, excluding Quebec, and become the biggest single party in the House of Commons and form a minority government. (There are 265 Federal seats; Bennett is betting the remainder would be split among other parties.)

Stage Two is to be defeated in the House of Commons, call a second election, and then sweep the country, including Quebec, as the party with the best chance of providing stable national government.

Aim at Ontario First

When does all this start? This fall.

Where? In Ontario.

"This fall," says Mr. Bennett, "we'll start nominating candidates in Ontario. Get a few good ones, and the ball will start rolling. We want 40 seats in Ontario." (That's nearly half the province's 85 seats.)

Quebec is left out of the immediate calculations, but a solid Social Credit West — plus perhaps a few seats in the Maritimes — is to make up the necessary balance of 50-odd seats for a total of 90.

At the second stage, after a short period of studying minority government, the voters' main concern (as Mr. Bennett has it figured out) would be to end the deadlock and produce a strong one-party government. The Liberals would have been pushed off their perch as "the only party with a chance to form a government." Quebec would back the winning side. Social Credit would come to full power at the second bite.

That's the essence of the plan as I distill it from the eager, quick-fire exposition given me here in a couple of lengthy interviews with Premier Bennett in his comfortable office in the B. C. Legislative Buildings.

Neat and dapper as always (though not in the striped pants which he often wears in the Legislature), Mr. Bennett talked emphatically, quickly, darting this way and that, pausing and starting again, grabbing for papers to support his latest point, shooting rhetorical questions at me, never at a loss for an answer, always showing a grand and sweeping confidence.

His dreams about how to capture federal power are clearly conditioned by the story of his success in this province. The pattern which he hopes to impose on the federal picture is precisely the pattern of how he came to power here.

A lot of people, even here in his direct sphere of influence, say he can never repeat it on the federal scene. Others say he shouldn't try, having all he can tackle here. But some, remembering how he swept British Columbia against all the predictions of the wise and the mighty, refuse to write off his chances.

Who Will Lead Ottawa Party?

Ask Mr. Bennett, as I did, who will lead the national Social Credit party, and he will give you this kind of answer. Premier Manning of Alberta, he says, has 20 years of experience. But anyway the Social Crediters would elect their own leader after the election. Until then the question does not arise.

That is how Mr. Bennett talked to me about the federal prospects — and he introduced the subject, not I.

"You say we came into a political void in B. C.," he said. "There was no void here. The biggest political void in Canada today is at Ottawa."

"Which are the governments closest to the people? The provincial governments, aren't they? That's right." (He has a trick of punctuating his rush of words with this slurred phrase.) "Where the people can really see their governments at work, they don't elect Liberals, do they? There isn't a Liberal provincial government west of P. E. I., except Manitoba, and it won't be there long."

The Liberals have stayed in power at Ottawa so long, Mr. Bennett argues, mainly because they could claim there was no national alternative. But: "we can sweep British Columbia and all the prairie provinces. With 40 seats in Ontario and some in the Maritimes, we can be the largest single party. Quebec will see which way the wind is blowing. Don't they always back the winning side? That's right."

What about combining with the Conservatives in Ontario or Quebec?

The answer was emphatic and brief: "We'll have no coalitions and no collusions." (The real nature of Bennett's relations with the federal conservatives isn't regarded by some professionals as quite so simple or so non-existent as that quote from Bennett implies.)

The only provincial campaigns would be in Manitoba and Saskatchewan. Apart from the prairies "we'll concentrate on the federal election."

Report has it that Mr. Bennett has already approached a number of Saskatchewan figures to help spark the S.C. drive in the province. He doesn't admit it, and the Social Crediters in Saskatchewan deny it. But report has mentioned approaches to a Saskatchewan Conservative called Kohaly, who talked about the alleged "offer," Ross Thatcher, MP for Moose Jaw, who recently bolted the CCF, and Joe Phelps, former president and sparkplug of the Saskatchewan Farmers' Union, and before that a member of Premier Douglas's CCF Cabinet in Saskatchewan. No one has bitten so far.

But Mr. Bennett proudly admits that the B. C. Social Crediters sent to every mailing address in Saskatchewan a well-printed booklet reporting on B. C.'s progress in two years of Social Credit rule. Around it was bound a special "Saskatchewan cover," with a map of the three Western provinces and the slogan "Now it's two . . . Let's make it three." It must have cost $40,000-$50,000 to produce, and Mr. Bennett said it worked out at eight cents a copy.

Both here and on the prairies the B. C. Social Crediters give the impression of being well financed; but Mr. Bennett said they had "no abundance of money." He accounted for their funds by saying: "We are the only party that takes a collection at every meeting. We have more paid-up members than all the other parties put together."

The average take at Social Credit meetings, I was told, comes to about 75 cents a head. Mr. Bennett also told me that some of the B. C. constituencies have "adopted" constituencies in Saskatchewan.

Social Credit's Platform

What would be Social Credit's main appeal in a federal campaign?

Top of the list Mr. Bennett put the same thing he claimed to have been the main appeal in B. C.: "Good government."

The way Bennett tells it, one is supposed to gather that they have been cleaning up after a regime of unmitigated corruption — certainly an exaggeration.

But most conversations about nearly three years of Social Credit rule in the province end with the statement: "At least Bennett has given us good and clean government."

All highway work — and there is a lot of it — is let on tender, and the bids are open for inspection by all bidders for seven days after the contract is let. Recently four B. C. contractors, who by stated policy have preference in Government work, submitted identical bids for the supply of culvert pipe for the PGE Railway—a practice which used to be not uncommon. Mr. Bennett returned them all, called for new tenders, got a low bid (and substantially lower) from a firm of Portland, Oregon, and accepted it.

The Premier has also been given credit for a number of appointments which brought in good men regardless of party. Outstanding was the recent appointment of Dean H. F. Angus of the University of B. C. to head the provincial Public Utilities Commission.

Next to the appeal of "Good Government," Mr. Bennett mentioned the women's vote. He thinks highly of it, and observers say he is good at getting it. "Concentrate on the women," he said. "The men are mostly stuck in a rut, but get the women and they'll make their men vote their way."

"And Bible-thumping?" I asked. Mr. Bennett, who belongs to the United Church, replied: "We have let our democracy get into a bad way when people think it is a terrible thing to bring religion into politics. We are prepared to fight and die for democracy, but when the men come home they talk about politics as if it were something improper. Look at all the clubs — I belong to Gyro — where the first rule is 'you mustn't talk politics.' That's an awful long way from the old tradition of meetings in the village store around the cracker-barrel."

"We always start our meetings with a hymn," Mr. Bennett added: "'O God, Our Help in Ages Past.'"

Speaking of Ontario, where Premier Manning's Bible Hour is now broadcast every week over a good many stations, Mr. Bennett said: "Mr. Manning must have lots of friends in Ontario."

Spending Program

How about Government spending?

"This country," said Premier Bennett, "is still virtually undeveloped. It has developed itself so far in spite of the Government at Ottawa. What couldn't it do with real government leadership for development?"

"Mr. St. Laurent," said Bennett again, "talks about this being still a small country of 15 million people that cannot undertake too much. What a way to talk!"

Not only the Premier, but his more cautious advisers — Attorney General Bob Bonner and financial advisor Einar Gundarson — all talk about great programs of public investment; and the best indication of their line of thought is what they are doing here in B. C.

They plan, for example, to spend $60 millions to extend the PGE Railway from Prince George to Dawson Creek and from Squamish (at the other end) into Vancouver. The Federal Government has recently offered to put up $2,500 per mile for the first 50 miles north from Prince George.

"The Federal Government would have been better to offer nothing at all," said Mr. Bennett. "To put up $1¼ millions out of $60 millions — about 2% — just makes them a laughing stock."

The B. C. Government is also borrowing for the Power Commission and for a new toll bridge and highway authority. Roads will still be built out of current revenue, but where bridges or highways are desired before the time when traffic could justify expending provincial funds, the toll authority may build them on borrowed money, guaranteed by the province. This is with the help, also, of an undertaking to provide out of provincial revenues 2½% of the capital cost per year, which ensures that they become toll-free within 40 years.

While the province is borrowing for all these purposes, Premier Bennett loudly claims credit for reducing the debt.

This contradiction arises from a method of accounting which excludes "contingent liabilities" from what the Government calls the net debt.

Last week Mr. Bennett announced that he had reduced the net debt of the province to $137 millions. This is a reduction of $15 millions from a year ago.

The first line of attack, which a local newspaper started, is that if he can reduce the debt he ought to reduce taxes instead. The more basic one is "What do you call net debt?"

This Social Credit Government is following its predecessor in deducting from the debt its advances to the B. C. Power Commission on the ground that they are "self-supporting." They are still a liability of the province, but the idea of not calling them debt started long before Mr. Bennett's time.

Building on that start, however, this Government has established the practice of borrowing "as agent for," and as guarantor of, bonds for the Power Commission, for the P.G.E., for the Toll Authority and for schools — and not counting them as part of the provincial debt.

A rough calculation from the B. C. Government's Finance Department report shows that borrowing for these purposes has increased by about $44 millions in the last year. This contrasts with the claimed $15-million reduction in "net debt."

Premier Bennett, confronted with this, will look straight at you with his bright brown eyes and say: "Oh, but these are just contingent liabilities. The taxpayers will never be called on to pay for servicing these loans. The Power Commission will pay off its borrowings; and the PGE and the toll bridges will pay for theirs."

Powers of Borrowing

In the federal sphere Mr. Bennett says today — or at least said to me yesterday — that borrowing should be even easier. The Federal Government, he said, has its own bank; and it should simply borrow from the Bank of Canada. The essential thing, he insisted, was to keep enough purchasing power, or money, in the hands of the people. But to do that you didn't need to increase the debt. He would reduce the federal debt, as he claims to be reducing the provincial debt; but, says he, he would borrow from the Bank of Canada. The chartered banks, not being loaded down with government securities, he goes on, would have that much more opportunity to lend money for the expansion of the Canadian economy.

This, Mr. Bennett claimed, would not interfere with the banking system. "We need a sound and healthy banking system."

Anyway, he said, he would move very gradually. "We're not going to move in and upset the system overnight. The banks aren't scared. They are planning to spend $10 millions on new buildings in B. C."

"We also know," he said, "that there are times when you may have to put the brakes on a little. But that's not the current situation. Supplies are now piling up — I know from my own hardware warehouse — and people haven't got the money to buy them."

As a sample of the public investment which he would make from Ottawa, Mr. Bennett said he would put up 95% instead of 50% of the cost of the Trans-Canada Highway, and 50% for all other trunk roads.

How about the dollar?

The Canadian dollar, Mr. Bennett claims, is far too high. A cardinal point in his federal platform would be to reduce the Canadian dollar to 90 cents and peg it there — though on second thoughts he preferred not to commit himself to the precise value of 90 cents. The thing was to bring it down.

"This," he said, "would be of value to all manufacturers. It would help our exporters to capture foreign markets. That would increase their output, and that in turn would reduce their prices to Canadian consumers. It would also discourage imports and help the tourist trade."

"The federal people say I ought to be proud that Canada's dollar is so highly valued. That's stupid," said Mr. Bennett. "It's ridiculous for us to have the hardest currency in the world. Look at the British. They wouldn't have got anywhere if they hadn't devalued."

Accept sterling, he says.

If devaluation wasn't enough to move our goods into world markets, Mr. Bennett was also ready to adopt another solution which has been aired by other people before him.

"If we need to, in order to move our surpluses," he said, "we should accept sterling for them. What we couldn't spend we could invest in the sterling countries. And if that doesn't do the trick, we should give our surpluses away.

"I'm not of his religion," said Mr. Bennett, "but I noticed that even the Pope said the 'have' countries should help the 'have-nots.' I think that's good sense. We can't ignore the millions of the underdeveloped Asian countries."

There's the plan and there's the platform, as this ambitious Social Credit star expounded it to me in his quiet office overlooking the peaceful flower gardens of Victoria's Legislative Building. The statue of young Queen Victoria kept its stolid back toward us, and the office staff gradually quit for the day, leaving us alone, while the Premier's eager eloquence poured on.

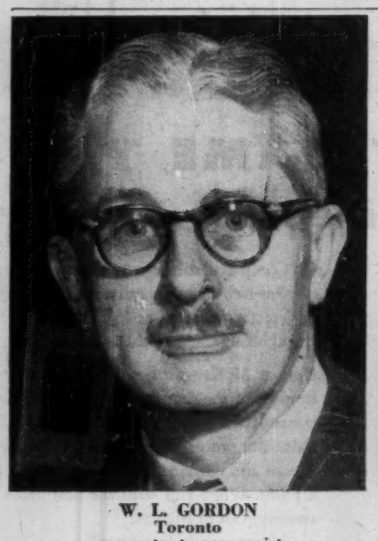
If there was an air of unreality about some of it (and I fancied that if his financial advisers had been present he would have modified what he said about creating credit through the Bank of Canada), yet there was a restless force behind it all, an urge to keep things moving, a vitality which helps to explain Mr. Bennett's popular appeal.

Whatever comes of his federal dreams, this man sees the Bennett star as very bright.

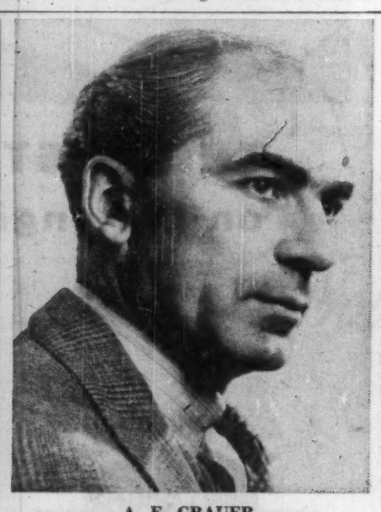
FROM WEST COAST, Premier W. A. C. Bennett eyes control of Federal Government

His Record in B. C.

—Born (September 6, 1900) and educated in New Brunswick schools. Parents both of U.E.L. stock.
—Moved to Alberta and worked as hardware salesman in Edmonton: Started own hardware business in Clyde, Alta.
—Moved in early '30s to Kelowna, B.C., and started hardware business there. Expanded this into a chain of stores reaching right through the Okanagan Valley from Penticton and as far as Kamloops.
—First elected to B.C. Legislature, 1941, as a Conservative. Re-elected 1945 as coalition supporter. Contested provincial leadership of Conservative party, 1946.
—November, 1947, nominated as Conservative candidate for the federal riding then called Yale. Resigned from Legislature March, 1948. Beaten in federal by-election by O. L. Jones (CCF), owner of a rival chain of hardware stores, who still sits for the new riding of Okanagan-Boundary.
—Re-elected to provincial Legislature, 1949.
—1950. Started to attack the Coalition. Made new bid for the Conservative leadership in opposition to Anscomb. October, 1950, Conservative convention unanimously re-elected Anscomb "after hectic fight."
—March, 1951, left the Coalition and crossed the House while in session. Reported to be talking about the formation of a new party.
—June, 1951: Social Credit spokesmen in B. C. denied Bennett was joining them.
—December, 1951: resigned from Conservative party and joined Social Credit.
—June, 1952: Won his old provincial seat (South Okanagan) as a Social Crediter.
—Elected leader of the B. C. Social Credit party.
—Sworn in as Premier, August, 1952.
—First legislature, February 3, 1953; dissolved March 27.
—Election, June, 1953: Social Credit returned with increased majority.



W. L. GORDON
Toronto
accountant, economist



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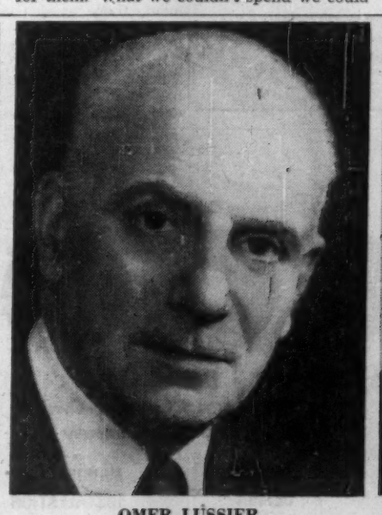
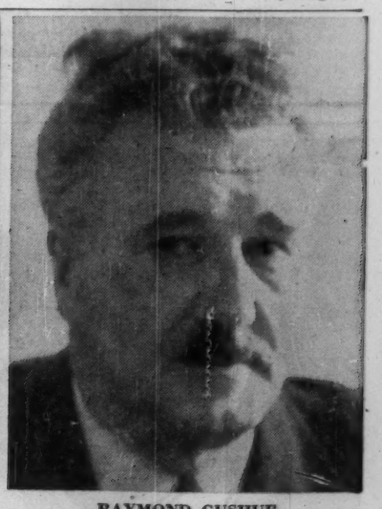


OMER LUSSIER
Quebec City
forestry engineer



RAYMOND GUSHUE
St. John's
fisheries expert

They Will Probe the Economic Prospects of the Canadian Nation

OTTAWA (Staff)—Primary objective of the Royal Commission on Economic Prospects will be to determine the course of Canada's economic development in the next 25 years.

The commission's ambitious horizon-wide terms of reference allow its members to investigate every aspect of Canadian economic activity. No detailed recommendations on changes in government policy are expected, but the commission's broad conclusions will provide both the Government and Canadian executives with a framework on which future policy can be based.

Here are some of the commission's terms of reference:

—Investigation of the tariff situation to forecast what changes may be necessary as a result of growing population and productivity.

—An estimate of Canada's population growth by regions, showing effects of more people on industrial output.

—Developments in the supply of raw materials and energy sources, including the question of how further domestic processing of raw material exports can be achieved.

—The prospects for the growth and change in domestic and external markets for Canadian products, showing how dependent Canada will be on exports for domestic prosperity by 1980.

—To produce the most comprehensive survey of Canadian resources ever made, relating reserves to potential uses. This will bring provinces into the picture, as natural resources are a provincial responsibility.

—Trends in productivity and a long-term look at Canada's standard of living. The question of how to raise employment prospects in the face of higher productivity through automation will certainly be considered, as well as future distribution of the labor force.

—Prospective requirements for investment capital, both in indus-

(Continued on page 21)

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How Would You Manage Canada's National Debt?

Harris Suggests IDA Members Give Thought to Debt Policy

What policy should Ottawa follow in the management of its debt? How can debt policy be shaped to contribute to the stability and growth of the country, and still take into account short-term needs and conditions?

Finance Minister Walter Harris last week pointed out to members of the Investment Dealers Association of Canada that no generally accepted philosophy on the role of debt management had been developed. He suggested they give thought to such problems and the development of solutions, in an address to the association's annual meeting at the Manoir Richelieu, Murray Bay, Que.

Here is a digest of his comments, and of a review of conditions in the financial field by N. D. Young, retiring IDAC president.

During the past decade there has been rapidly growing agreement among economists and market specialists that the most effective national program is one in which fiscal policy, monetary policy and debt management work in the same direction and reinforce each other.

Inappropriate policies in one field may nullify attempts to maintain appropriate policies in others; all three tools need to be co-ordinated.

Surprisingly little attention is devoted to the ramifications of debt management. As yet, there has not developed any generally accepted philosophy as to the role that debt management can and should perform in our economy. Our experience in living with a huge funded debt has been comparatively brief so that it is difficult to construct a series of principles. It is worth noting at this point that the burden of our national debt—that is, the relationship between the interest cost of servicing the debt and our gross national income—is now lower than at any time since the First World War.

There is general agreement that the major objective of debt management should be to contribute to the stability and growth of the economy. It is also agreed that consideration should be given to both the short run and the long range consequences of financing decisions. Nevertheless, the proper emphasis is worth finding.

In the past 20 years, important changes have occurred in the composition of the federal debt. In 1935, 52% of the funded debt had a term to maturity over 15 years; in 1946, 26%; today, only 8%.

This shift to a shorter average term may be attributed in part to an altered distribution of the ownership of the debt. Just prior to World War II, the banking system and government investment accounts held 25% of the outstanding debt against 45% today.

Some may argue that the volume of bank-held debt is too large and that a substantial portion of it should be shifted to the portfolios of other investors. Others believe that the economy has now become adjusted to its enlarged money supply, that over a period of years our expanding economy will require an expanding money supply, and that it would be wrong to make any appreciable reduction in the bank-held debt because this would tend to cause a corresponding shrinkage in the money supply.

From the standpoint of the banking system itself, there are some obvious advantages in large holdings of government securities. The banks need substantial amounts of governments for liquidity purposes. The increase in bank holdings has greatly strengthened both the liquidity and the quality of bank assets and has made bank deposits less vulnerable to a decline in bank loans.

These points are, however, less important than the main issue as to whether the economy needs, or could stand, the deflationary effects of an appreciable reduction in bank holdings. It seems clear that this question should be answered in the light of economic conditions existing at a particular time.

Another interesting trend in the distribution of the debt is the reduction in the proportion owned by nonresidents. In the late 'thirties, approximately one third of the funded government debt was held by nonresidents; today, they own less than 5%.

During the postwar decade there has been a steady increase in the proportion of our debt in nonmarketable form — currently 13%. It has been clearly demonstrated that the Canada Savings Bond provides a practical method of maintaining a widespread distribution of government bonds with the substantial social benefits that accrue therefrom.

The Savings Bond's popularity as a convenient savings medium is reflected in the 1,200,000 buyers of $800 millions of the Ninth Series last fall, compared with 18,000 buyers who acquired the $850 million market issue a year ago and the 14,000 buyers who took up the $1,100 million market issue last September. Both market issues included long-term bonds.

Decisions taken in managing our debt must take into account a constantly shifting market situation. When there is an ample supply of funds seeking investment, there is also considerable latitude with respect to the types of securities the Government can sell; when there is a relative shortage of investment funds, it has much less latitude. Whatever decisions are taken will in themselves influence market conditions.

Debt management in the final analysis entails striking a balance among a variety of considerations foremost among which are convenience and economy for government on the one hand and the desires and needs of investors on the other. Since the decisions taken do have significant effects upon credit and economic conditions, they deserve continuous study and discussion by interested groups such as the IDAC.

The huge maturities which will have to be largely refunded over the next five or 10 years provide us with the opportunity to establish and maintain sensible patterns in our debt that will make a worth-while contribution to the stability of our economy.

* * *

N. D. YOUNG, Dominion Securities Corp., Toronto, retiring president IDAC.

The Bank Act Revision which in effect increased the chartered banks' cash reserves; the increase in demand for short-term securities from dealers through the introduction of day-to-day loans; together with a reduction in the outstanding supply of short-term securities, have all been factors in the decline in medium and short-term interest rates in the past year.

Further action on the side of monetary ease was taken by the Bank of Canada in February 1955 when the discount rate was reduced to 1½% from the rate of 2% which had prevailed for some years. Although no actual borrowing has been contemplated or even seems likely, the official move must be interpreted to mean that the policy of ease is more than of momentary importance.

These changes have had an important effect not only in terms of government securities but throughout the whole interest rate structure. Yields on provincial, municipal and corporate securities have declined and this spring, the maximum interest rate on National Housing Act insured mortgage loans has been moved downward to 5¼%.

The level of interest rates in Canada for longer-term securities is closer to that prevailing in U. S. than it has been for some years, the current spread being of the order of .20%. In the case of treasury bills and some other short-term securities, Canadian yields are lower than the comparable rate in U. S. This narrowing spread has had an important effect on the exchange rate of the Canadian dollar in terms of the U. S. dollar and the policy of active ease has undoubtedly had this wider purpose in view. A cheaper Canadian dollar over the last few years would have had much to commend it in the wider area of our trading relationship and import competition. Whether an exact corollary or not, the premium on the Canadian dollar has lessened within recent months.

The year 1954 was an active one in terms of debt financing. The funded debt of the Government of Canada showed a decline of $171 millions — the net result of new issues of $3.4 billions, retirements of $3.7 billions, treasury bill increases of $130 millions and an increase in matured and outstanding debt of $55 millions.

As of May 1, 1955, there had been a further increase of $150 millions (to $930 millions) in the amount of treasury bills outstanding.

Provincial governments, municipalities and corporations all raised increased amounts of money during 1954 — net new issues being estimated at $849 millions — $291 millions by provincial governments, $248 millions by municipalities and $409 millions by corporations.

New corporate stock issues totaled $184 millions during the year, some $52 millions less than in 1953.

For 1955 every indication is that although new financing is not likely to reach the levels of 1954, it will continue heavy and active. New offerings of direct and guaranteed Government of Canada bonds may well take the form of another series of Canadian Savings Bonds in the fall as well as some long-term guaranteed CNR bonds

To further develop the short-term money market, it is probable that treasury bills will continue to increase in volume. It might be, too, that some steps could be taken to refund the $1,200 millions of the Fifth Victory loan which is callable Jan. 1, 1956.

New issues by provincial government and municipalities may well exceed the 1954 levels. Corporate borrowing in total is difficult to gauge but unless the gas pipe line financing proves feasible it may well be that the total will be somewhat lower.

These trends are borne out to some extent by the record of new financing for the first four months of 1955 as compared to the first four months of 1954 as follows:

	1955	1954
	($ thousands)	
Govt. of Can..	nil(a)	200,000(b)
Prov. Govts.	195,099	223,052
Municipal Govts.	122,195	70,946
Corporations	241,580	274,815
	558,874	768,813

(a) exclusive of increases in treasury bills and short-term treasury notes.
(b) C.N.R.—Guaranteed by Government of Canada.

One of the more recent significant developments has been the raising by corporations for additional equity capital through the offerings of rights to existing shareholders. For the last half of 1954, some $68 millions was raised this way. So far in 1955, however, offerings of rights have totaled some $132 millions, and more may well be in prospect. This may be a partial answer to the concern which has been expressed from time to time regarding the preponderance of financing by way of debt issuance rather than through increased equity interest.

Since 1948, the total of bonds outstanding has increased from $21.9 billions to $25.2 billions at the close of 1954. There have, however, been very substantial changes in classification of the debtor.

	1948	1954	Change
	($ millions)		
Government of Canada			
Direct & Guaranteed & CNR unguaranteed	16,590.0	15,465.4	—1,124.6
Provincial			
Direct & Guaranteed	2,233.1	3,853.6	+1,620.5
Municipal			
Direct & Guaranteed	983.7	2,060.6	+1,076.9
Corporate	2,106.7	3,842.3	+1,735.6
Total	21,913.5	25,221.9	+3,308.4

The net decrease in Government of Canada bonds outstanding is a reflection of the substantial budgetary surpluses of the Federal Government throughout the postwar period and until the fiscal year ending this month. The increase of $1.6 billions in provincial debt, $1 billion in municipal debt, and $1.7 billions in corporate debt results from the tremendous capital investment program of these years.

Although there is a plentiful supply of money in the hands of the public and a large volume of new savings continues to be generated, the large prospective demands for investment funds in 1955, together with a possible greater use of bank credit by business corporations in the last half of 1955, might suggest that economic pressures are working toward a tightening of credit conditions. "Official" monetary and credit policies, however, are not likely to allow market forces to have their full effect. Consequently, unless inflationary pressures become evident in the Canadian economy, or interest rates in the U. S. experience an unexpected and sustained upward trend it seems likely that official policies in Canada will be directed toward a maintenance of credit ease with basic interest rates around present levels.

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In the ordinary branch, there were 1,535,546 life policies in force at the end of 1954 (1,481,716 a year earlier). Premium income rose by £3.4 millions to £44.5 millions.

In the overseas life branch, a record volume of new life business was again written. More than 47,000 new policies, totaling £56 millions, were written in 1954 to bring total in force to more than £355 millions.

In the industrial branch, new sums assured were £80.2 (£78) millions. At year-end, 30,261,717 policies were in force, under which the maximum sum assured was £1,030 millions.

In the general branch, premium income increased by £100,000 to £12 millions, of which £7.6 millions or 55% was derived from overseas sources.

ANNOUNCEMENT

BANK APPOINTMENT

MR. LEO LAVOIE

The appointment of Mr. Léo Lavoie as Assistant General Manager has been announced by The Board of Directors of The Provincial Bank of Canada. Mr. Lavoie joined the service of the Bank at Riviere du Loup in 1930. He was successively Manager of various branches in the Province of Quebec before taking charge of the Main Office of the Bank in Montreal in 1953. In January 1955, he was appointed assistant to the President, post he occupied until his new appointment. Mr. Lavoie is a graduate of the 26th Advanced Management Program of Harvard University.

B. C. Air Battle Coming to Close?

This week it looked as if the long battle between Pacific Western Airlines and Queen Charlotte Airlines for important B. C. routes might be over.

PWA has obtained an option on the purchase of QCA, and indications are the option will be taken up before it expires June 30.

Combined, the two airlines have access to a vast area rich for potential air traffic. In the past, the affairs of both lines have been marked by bitter disputes over traffic rights.

PWA was formed in 1946 as Central British Columbia Airways Ltd. In 1953 it changed to its present name. Vice-president and general manager is Russell Baker.

One of the veteran operators in the difficult skies off the West Coast, QCA has maintained services from its Vancouver base to Vancouver Island and Northern and Central B. C.

MARKET COMMENT

The informed opinion of men experienced in market analysis is given regularly in this investment feature. For profit add their viewpoint to yours. You get them in

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DR. JOHN DAVIS
Economist

NORMAN LAFRANCE
Administrative secretary

They Will Probe Economic Prospects of the Nation

(Continued from page 19)

try and for the erection of hospitals, schools, etc.

—The question: "Are Canadians receiving an adequate share of their country's prosperity?" and the entire problem of U. S. and other foreign subsidiaries here.

In effect, the study will provide every Canadian businessman with the kind of data he would like to have at his fingertips for future planning, but can't afford to collect and have analyzed.

The commission's hearings will begin in the Maritimes, following the Labor Day week end. The commission will take a two-week adjournment after its eastern tour, before heading out west. Hearings in Central Canada will be held during the first half of 1956. Most large Canadian cities will be visited.

A firm deadline for brief submissions will be announced in mid-July following the commission's first full-scale meeting. Government supplementary estimates recently tabled in the House of Commons included a provision for $300,000 to set up the enquiry.

It is expected that preparation of the final report will take about six months following completion of hearings. As well as the commission's battery of economists and experts, studies on specific trends and industries will be farmed out to top experts in each field.

The commission expects to receive briefs from all the major Canadian associations, as well as individual companies. It hopes the accent in submissions will be on predicting Canada's economic future, rather than recommending how the association or industry would like to influence government policy.

The commission will be headed by Walter L. Gordon, president, J. D. Woods & Gordon Ltd., Toronto. Other members are Omer Lussier, professor of economics, Laval University; A. E. Grauer, president, B.C. Power Corp; Andrew Stewart, president, University of Alberta; and Raymond Gushue, president of Newfoundland's Memorial University.

Chosen as secretary is Douglas V. LePan, formerly minister-counselor at the Canadian Embassy in Washington, who acted as an adviser to the Prime Minister at the important 1952 Commonwealth Economic Conference in London.

Associated with LePan in a senior capacity will be Dr. John Davis, the affable associate director of the Dept. of Trade and Commerce economics branch.

He is the Government's top expert on studies of power and energy requirements. Major Norman Lafrance is on loan from the Canadian Army to act as administrative secretary.

U.K. Shipping Strike Loads Trans-Atlantic Airlines

MONTREAL (Staff) — Airlines are flying high these days as a result of the strike hold-up in U.K. trans-Atlantic passenger shipping services.

Officials of Trans-Canada Air Lines, BOAC, and KLM, all report capacity bookings. Their major need is more equipment for the overflow. And some of the slack is being taken up by what was formerly one of the world's largest airlines — West Germany's government-controlled Lufthansa. First of a number of chartered Lufthansa aircraft landed in Montreal with 73 passengers, stranded in England by the strike. These could be forerunners of a trans-Atlantic service linking Germany and Canada for the German airline which is striving to make a comeback in the international aviation field.

TCA report a heavy waiting list, particularly westbound. Officials said they are considering an extra flight or two daily but it will depend on "the situation" and availability of equipment. The airline foresees an estimated 25% increase in North Atlantic traffic revenue this summer compared with last. It increased aircraft on the route from five to eight May 1.

BOAC states it could "easily fly three extra flights per day" if it had the equipment. It has flown one extra flight bringing 68 crewmen for the CPR's Empress of France which left the U.K. without a full crew.

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ANNOUNCEMENT

Herbert A. Watts Ltd., — Appoints three new officers

HERBERT A. WATTS
President of Herbert A. Watts Ltd.

BETTY NEALON
Vice-President

D. A. KEITH, M.B.E., Q.C.
Director

EDWIN A. JARRETT, F.C.A.
Director

Herbert A. Watts Ltd. — direct mail specialists, has announced the appointment of Betty Nealon as Vice-President. D. A. Keith, M.B.E., Q.C., and Edwin A. Jarrett, F.C.A., have been appointed Directors of the firm.

Miss Betty Nealon has spent seventeen years in the direct mail field. She has had extensive experience in service, production and direct mail planning.

D. A. Keith, M.B.E., Q.C., is a partner in the firm of Bell, Keith, Ganong & Griffiths. In addition to being a Director of the Bathurst Mining Corporation Ltd. and Anacon Lead Mines Limited, he is a Director of a number of other progressive organizations. Mr. Keith is also President of the Ontario Club.

Edwin A. Jarrett, F.C.A. is a partner in the firm of Glendinning, Jarrett & Campbell. He is also immediate past president of the Bureau of Municipal Research, Toronto, as well as a Director of Hill-Clark-Francis Ltd. and Canada Colors and Chemicals Ltd., and a past president of the Toronto Better Business Bureau.

In addition to normal direct mail services in Toronto and Montreal, Herbert A. Watts Ltd. handles premium and contest promotions through all phases. This includes every operation from establishing a central post office box address to handling, analyzing, judging and reporting of returns, as well as the distribution of premiums and prizes.

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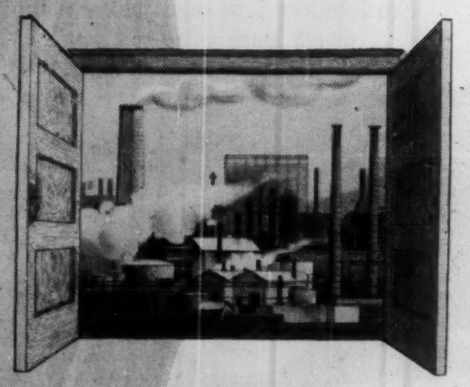

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COMPANY REPORTS

To assist readers in appraising and comparing company financial statements. The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Food

MANITOBA SUGAR CO., Fort Garry, Man., net profit slipped 9.3% to $202,735 in the year ended March 31 from $223,604 in the previous year.

The drop in income reflects lower prices obtained for the company's products, C. S. Tupper, chairman and president, says. Sales were higher although dollar value shows only a small increase at $5,076,632, compared with $4,777,777.

Sugar beet crop harvested was the largest on record, yielding 237,011 tons from 23,510 acres. Sugar content was below average because of a wet and cool growing season. Production amounted to a record 36,433,000 pounds of sugar and 21,244 tons of byproducts.

The company has contracted for about 22,300 acres for this year's crop. First phase of the enlargement program of the plant was completed and the second phase is under way, he reports.

INCOME ACCOUNT

Years Ended Mar. 31:	1955	1954
Net earnings	$382,735	$482,604
Less: Deprec.	†	†
Prov. for contng.	.....	25,000
Bond int.	†	†
Inc. tax res.	180,000	234,000
Net profit	202,735	223,604
Less: Pref. divds.	135,000	135,000
Surplus for year	67,735	88,604

†Unstated.

Earnings per Share and Dividend Record:

Pref. Earned	$13.52	$14.91
Paid	6.00+3.00*	6.00+3.00*
Com.: Earned‡	3.32	3.93

None paid.
*Paid on arrears.
‡After full year's pref. dividends, without allowance for arrears.
Note — Dividends on preferred shares were in arrears $3.00 per sh. at Apr. 1, 1955.

CONDENSED BALANCE SHEET

As at Mar. 31:	1955	1954
Cash	$19,270	$66,144
Accts. rec.	81,382	53,784
Inventories	3,054,721	2,104,267
Total curr. assets	3,155,373	2,224,195
Def. & pref. chgs.	150,595	184,597
Misc. assets	37,384	33,706
Fixed assets	1,618,799	1,448,364
Total assets	4,962,321	3,890,862
Bank loan	842,000	34,000
Accts. pay.	675,354	393,942
Pref. divd.	90,000	90,000
Taxes	77,469	123,097
Total curr. liab.	1,684,813	641,039
Funded debt	240,000	280,000
Contng. res.	250,000	250,000
Capital stock	1,500,000	1,500,000
Surplus	1,287,558	1,219,823
*After depr. of	2,309,445	2,088,365
Working capital	1,470,560	1,583,156

TIP TOP CANNERS LTD., Greensville, Ont., net profit jumped 100.7% to $24,817 in the year ended April 30, 1955, from $12,367 in the previous year.

Sales were at a record level, W. E. Hyslop, president, reports. Inventories of finished goods were at the lowest point in years.

Crop conditions look very favorable and the company plans a good pack in all lines.

INCOME ACCOUNT

Years Ended Apr. 30:	1955	1954
Operating profit	$73,904	$40,423
Less: Deprec.	36,787	24,914
Income taxes	12,300	3,142
Net profit	24,817	12,367
Add: Cl. A divds.	11,683	11,683
Surplus for year	13,134	684

Earnings per Share and Dividend Record:

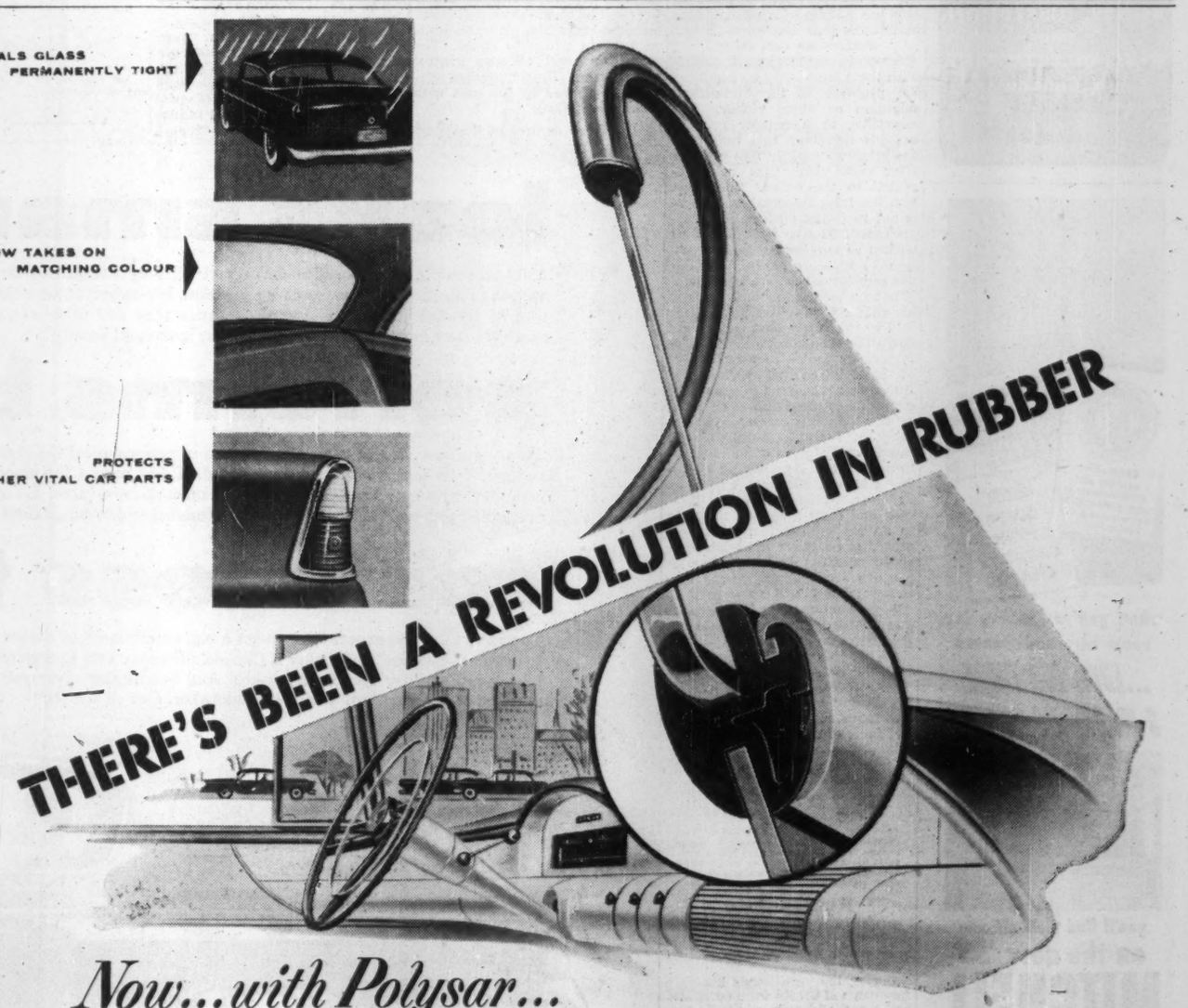
Cl. A: Bef. part.	$1.06	$0.53
After part.	0.63	†
Paid	0.50	0.50
Cl. B: Bef. part.	0.56	0.03
After part.	0.43	†

None paid.
†No earnings available for participation.

CONDENSED BALANCE SHEET

As at Apr. 30:	1955	1954
Cash	$3,667	$4,993
Accts. rec.	117,451	101,778
Insur. dep.	13,331	12,489
Inventories	278,956	364,237
Total curr. assets	414,405	483,497
Prep. exp.	5,918	10,203
Fixed assets†	216,156	224,777
Total assets	636,479	718,477
Due to bank	173,000	280,000
Accts., etc., pay.	99,630	98,183
Taxes pay.	12,300	3,739
Total curr. liabs.	284,930	381,942
Divd. reserve	11,683	11,683
Capital stock	116,830	116,830
Capital surplus	3,791	3,791
Earned surplus	217,245	204,231
†After deprec. of	449,708	434,553
‡After res. of	7,551	4,789

‡Incl. in curr. assets in co's report.
Working capital 129,475 101,555



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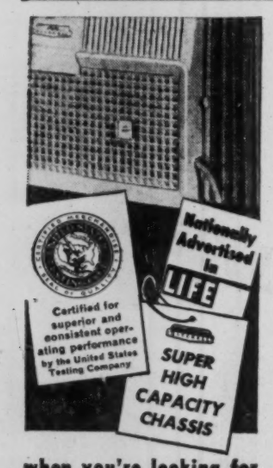

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It's Later Than They Think

How to Save Time (Money) in Office Interviews

In North America, at least, time has become money. The average executive has to be careful how he spends it. He generally is, but the host of daily office visitors are often willing to squander time. Ernest Fair, veteran U. S. business writer, asked business leaders how they kept down interview time without missing out on potentially good bets. Here's how it's done.

By ERNEST W. FAIR

"Look, I'm a busy man so make it short and to the point." It's said some executives handle interviews with salesmen and others in this manner. But while it may be a good way to get as much from each minute as possible, it is also a sure method of discouraging office guests whose visits may lead to more profits.

As more and more problems pile on every executive as each year goes by he must work actively at putting his time to maximum use; leisure is a premium he can seldom afford. That in turn means that each person to whom he gives his time must use it properly and provide a worthwhile return.

Unfortunately office visitors, no matter who they may be, are usually interested in taking up as much of time as they can get . . . it is the executive himself who must see to it that things are handled as quickly as possible.

Since there are no manuals or textbooks on this subject we've gone to several score executives individually on how each handles this problem. Many replied with this: "When you find out, let me know." But there were a number who had worked out their own systems of reducing interview time waste.

"No matter who the individual may be I make it a point to take the upper hand from the very start," one executive explained, "as he enters the office I greet him cordially and politely inform him that I am very sorry but I have a terrific schedule that day and can only allot him so many minutes of time so perhaps we had better get straight to the matter.

"That throws many off balance from the start . . . sort of separates the men from the boys. But it has always seemed to put my visitors into the right frame of mind. They usually co-operate and get right down to business . . . hit the high spots and avoid frills.

"And it has another big advantage in that it avoids my having to appear rude in breaking into the middle of a presentation to tell the man the same thing."

Secretaries Can Help

Several executives work closely with their secretaries on handling the problem of the "talkative" salesman or other visitor. One executive, as a regular routine, has his secretary call him over the intercom exactly five minutes after each visitor has been admitted to the office. She gives him the false information that he is not to forget an important appointment in five minutes. If he wishes to continue the conversation he informs her to postpone the appointment for a half hour; if not he thanks her and turns to his visitor with regrets.

"I've found my best way to cut down the time consuming lengthy interviews is to require digests of information beforehand and study these at leisure," another executive pointed out.

"If a visitor is calling on something of definite interest and I can immediately see he is going to use a lot of time during a busy day I inform him that I have an appointment in just a few minutes and can't give him the time to do his subject justice. I suggest that he leave me what data or information he may have or prepare an analysis for my secretary; that I will go over it in a leisure moment and as soon as I've finished arrange another appointment to see him.

"What this actually does is attack the time consuming problem at its core—those big lengthy drawn-out verbal presentations. I've found that I can digest essential facts of such presentations in a few moments from a written summary or report where it might take as much as an hour to present them verbally. This system eliminates all of that wasted time. Regular salesmen tell me they liked the idea because their time is valuable too; as soon as they become convinced I was sincere and not just stalling them."

Many executives budget their time. They set aside certain days of the week for interviewing salesmen, customers, and others; reserve a 15-minute buffer period in each afternoon for a timely interview that cannot be postponed. Each visitor must secure an appointment with their secretaries and is informed how much time is alloted them.

"That system works perfectly in handling 90% of my work which involves interviews with people outside of the firm," one executive explained, "but I doubt it would be worth much if not always subject to revision. When someone with something really important comes along we always find a spot to handle the matter. But it does systemize my interviews and helps to keep control over them and that is the important thing to avoid wasting one's time."

Several executives use "buffers" in avoiding time waste. They assign various phases of the business to junior executives or office personnel; require that the visitor clear through these individuals first. This system provides the executive himself with a short summary by the other person in the firm and also helps to avoid time wasted in talking with individuals whose projects are of no interest whatever to the firm.

Some Suggestions

Keeping down time waste during the actual interview is another problem with every executive. Naturally the other fellow is most enthusiastic about his presentation and desirous of presenting as much favorable data as possible; we would be too if the positions were reversed. However, he cannot be given unlimited time in which to do so. The executive must exercise control of that time. Here are some suggestions offered by the men with whom we talked:

(a) Keep control of the interview at all times. Once the other fellow gets the upper hand it becomes extremely difficult to avoid time waste.

(b) Keep asking questions. This gets us the specific information we desire readily. It channels the other person's thinking to the points that are of interest to us and avoids time wasted on "side tracks."

(c) Avoid story telling, reminiscing, day dreaming and other time wasters yourself . . . the interviewee sets the example; if he is curt and to the point chances are the other fellow will be too.

(d) Make sure every visitor understands time is precious from the first moment on; specify your interest but only in the essential facts.

(e) Never let the visitor become too relaxed or comfortable; he or she will instinctively seek to remain in that desirable situation as long as possible.

Salesmen, as a rule, are seldom time wasters. They very much appreciate the executive who knows and understands the value of time. Putting every moment of his time to effective use is one of the first lessons a salesman must learn. Once such men are given to understand we feel the same way a high degree of co-operation can be secured from them.

When time is pressing such interviews should be confined to "order taking" alone and the salesman told that we will have such and such a time available for him to show us anything else he has of interest. Sometimes such procedure is highly welcomed by the salesman himself. We can be sure that these men will always understand the precious value of time to us and co-operate fully. For the stubborn individual who cannot so understand . . . well, we can be sure he wastes none of our time by not alloting him any of that time at all.

The Press Interview

Where we have interviews with members of the press a great deal of executive time can be saved by finding out in advance what the reporter is interested in and having an office associate prepare this information in advance with the interview to clarify or expand the basic information. This method reduces such interview time by the executive to as much as a fourth of what it would be otherwise. The reporter will be appreciative too.

The use of written reports can also provide much time saving in handling the executive's interviews with his associates and subordinates in the firm. If everyone concerned understands that this is standard order of procedure they not only will reduce essential facts to such a report which may be absorbed in a few moments but will educate their thinking to the same concise procedure. That alone will reduce wasted time by "trimming off" the excess verbiage from all such reports and conversations.

No matter who may be the other person in the interview, no matter what the subject may be, we can always find ways and means of putting the time spent with each such person to maximum possible use. Not only does this permit the executive to avoid superfluous matters but it gives him the opportunity to accomplish more profitable work in each day's period of time.

No executive would spend $500 on a company project when he could accomplish the same ends for $300. It is just as essential that he not spend thirty minutes on a 10-minute task.

Reducing interview time waste is just another way of attaining more profits in the firm's operation.

COMPANY REPORTS

To assist readers in appraising and comparing company financial statements, The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Real Estate

DOMINION SQUARE CORP., net profit rose 14.8% to $258,062 in the year ended April 30 from $224,891 in the previous year.

During the year, bonds having a face value of $67,500 were purchased, and cancelled leaving $1,658,500 outstanding.

INCOME ACCOUNT

Years Ended Apr. 30:	1955	1954
Gross oper. inc.	$1,258,955	$1,188,110
Less:		
Oper. & adm. exp.	550,535	524,305
Net income	708,420	663,805
Less: Bond int.	67,787	69,523
Deprec.	146,973	154,709
Inc. tax res.	235,598	214,682
Net profit	258,062	224,891
Less: Divds.	234,500	187,600
Surplus	23,562	37,291
Times Interest Earned:		
Before deprec.	10.45	9.55
After deprec.	2.28	7.32
Earnings per Share and Dividend Record:		
Common	$5.50	$4.80
Paid	4.00	4.00

CONDENSED BALANCE SHEET

As at Apr. 30:	1955	1954
Cash	$280,326	$235,373
Accts. rec., less res.	1,395	6,704
Total curr. assets	281,721	242,077
Invest. in Peel-Windsor Garage	128,252	111,205
Prepd. ins.‡	11,278	13,556
Fixed assets*	2,413,388	2,560,361
Total assets	2,834,639	2,927,199
Accts. pay.	6,266	6,993
Prepd. by tenants	28,262	23,692
Bond int. accr.	33,170	34,520
Inc. tax res.	16,779	66,682
Total curr. liabs.	84,477	131,886
Funded debt	1,658,500	1,726,000
Capital stock	703,500	703,300
Capital surplus	174,827	175,741
Earned surplus	213,635	190,072
*After deprec. of	1,861,611	1,714,638

‡Incl. in curr. assets in co's report.

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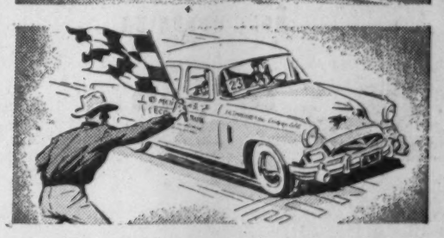

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Market Comment

What stocks and bonds are doing and what prominent observers say

There is no doubt that settlement of U. S. labor disputes and optimism surrounding forthcoming Big Four talks, are basic factors tending to prolong the current bull market atmosphere. But despite this and the continuing evidence of good business tempo for rest of the year, authoritative market analysts are now starting to advise reappraisal of portfolio holdings in light of smart advances up-to-date and in light of growth potential from here on.

This was a standout week for the big four in the Canadian uranium picture — Gunnar Gold, Algom Uranium, Pronto Uranium and Consolidated Denison. The first three moved forward as initial production date neared, Consolidated Denison had jumped to $12½ at midweek on official announcement of 5,000 tons-a-day milling rate target.

* * *

E. G. BULMER: Trends & Timing Ltd. (Toronto)

A situation best likened to "a tug of war" has been quietly developing since March of this year. Up to this point the surface implications aided and abetted by the normal optimism of the buying public have had the advantage. The market has reflected this feeling by surging from one new high to another until the process has become commonplace. The other team is a set of factual data derived from the study of bank figures, which indicate that underneath the apparent buoyancy, the economy is contracting.

While it is always possible that a reversal in the economy could take place, as it did last year, before confidence in the market becomes impaired, in our opinion, failure to do so will result in an end to the upward trend.

From 1927 on there have been only four real opportunities to make and retain large profits in the market — 1923-29, 1932-37, 1942-46 and 1948-1955. All good things must end and usually do without too much advance warning.

We are not concerned with whether the current rise has lasted longer than others within the scope of our operation or whether the level of the market today is higher or lower than it was in relation to 1929. What we are concerned with is that prior to the declines that took place following each of the periods mentioned above, the bank figures were acting as they are at the present time and the attitude of the buyers was just as carefree.

For these reasons the next three months should be as interesting a period as we have seen for some time. How well you interpret the evidence that is piling up can determine the figures you finally put in your profit or loss column as the result of your investment program during one of the most sustained "bull" movements in the long and varied history of the stock market.

* * *

JAMES M. DOUGLAS: Playfair & Co. (Toronto)

Never before in the history of North America has there been such a unanimity of bullish opinion about the market. The consensus seems to be "The market is high but it should go higher." The prerequisite to higher stock prices is higher earnings.

A poll has shown that a large majority of experts believe that the last half-year's corporate earnings will be as large or larger than the first half of the year. Finance Minister Walter Harris reports that our economy is running at the rate of 26 billion dollars per year and will average out to his optimistic budget predictions.

The New York Times composite average of 50 leading industrials and railroad stocks last week reached its highest point since Sept. 23, 1929.

In the midst of this tremendous optimism, it seems foolish to point out that events have a subtle way of confounding the experts.

It isn't being overcautious to point out that price-earnings ratio of stocks has risen from six times earnings in 1949 to over 15 times today, or that when stock prices have recorded consistent new highs over an extended period it is time to buy some market insurance in the form of cash through the realization of profits.

In view of this it would be timely to take inventory of investment portfolios. While doing so, look in the box for called Dominion issues and matured War Savings Certificates. The Bank of Canada has some 40 million dollars of your money that is not earning any interest for you.

* * *

ROGER R. BELANGER LTD. (Montreal)

The forthcoming big four high level talks are producing an aura of international hope not recently known. Peace and prosperity seem almost everywhere.

The U. S. settlement of labor negotiations at Ford and General Motors has served as a further stimulus to higher market levels both in the U. S. and Canada. Undoubtedly from here on, wage scales will be established in relative conformity with the automotive industry, and the strong market response would suggest inflationary tendencies. In early spring, there had been some thought that inventory build-up might be reaching critical proportions. However, the surge of spending by the U. S. ultimate consumer accelerated so sharply that apparently no accumulation has developed.

Increase in the U. S. gross national product has been no less than spectacular. September quarter 1954 was approximately $355.5 billions (annual basis), December quarter 1954, $362 billions, March quarter 1955 $370 billions. And June quarter 1955 may approximate $375 billions. Canada has not been lagging. Comparative quarters were $23.9 billions, $24.4 billions, $25 billions, and, although no projection is available for the June quarter 1955, a moderate increase above the March quarter would be the expectation.

Summer vacations will certainly cause a mild restraint, but with early automotive model changeover, it is becoming the general opinion that the fourth quarter output will again establish new records.

Industrial stocks in the U. S., Canada, and England have spiraled dizzily in recent weeks. How high is too high? The U. S. Dow Jones industrial index now stands at around 445, compared with just under 255 at the low point in mid-September 1953. Recently Canadian industrial stocks have shown spectacular movements to send the Toronto industrial index to above the 415 mark from a low of approximately 301. At no time since the move got under way has there been such unanimity of opinion by analysts at large as to the well-being of the market. The prevailing optimism seems well founded, and is a reflection of toppling records in many phases of the economies both in the U. S. and Canada.

Investors in Canadian equities generally have fared well, especially those whose portfolios were weighted in issues comprising primary industries. Strong U. S. demand for Canada's pulp, paper, and wood products has created sustained peak demand on the country's productive facilities, and, in turn, may permit many new earnings records for the year 1955. In the last nine months, the prices of lead, zinc, silver, nickel, aluminum, and copper have risen from moderate to substantial proportions, which will be favorably reflected in the current year.

With an early decision expected on the trans-Canada pipeline, the petroleum group gives promise of increased activity. The utility issues, in response to Canada's growing population demands, have become investors' favorites. The construction group, especially those companies which may participate in Canada's future atomic power development, have recently been drawing considerable interest. Steel issues have enjoyed strong demand and many other selected issues have participated.

In the wake of this upsurge, a major speculative market has ensued which, at times, has seemingly overshadowed the industrial market itself. The present confidence and assurance seem to be establishing a degree of complacency. It is this complacency at high market levels which could lead into a short-lived but precipitous decline should investors become panicky on any unfavorable news developments. Therefore, it would seem a virtual necessity at this time that the prudent investor realistically appraise his portfolio, not in terms of past performance, but rather on the basis of future growth potential.

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THE ROYAL SCOTTISH Insurance Co. Limited
THE WORLD MARINE AND GENERAL Insurance Co. Limited
SCOTTISH METROPOLITAN Assurance Co. Limited
LONDON & SCOTTISH Assurance Corp. Limited

NORTHERN ASSURANCE CO. LIMITED

—in its 1954 Annual Statement declares—

Total Assets	$168,018,116.
Total Liabilities	$144,051,757.
Surplus	$ 23,966,359.

Total Annual Income
(Sterling converted at $2.69 per £)

1836	£ 3,072
1875	£ 590,727
1925	£ 6,980,217
1953	£27,704,234
1954	£30,059,871

Head Office for Canada — 264, Hospital St., Montreal

Also Offices in Toronto, Hamilton, Winnipeg, Calgary Edmonton & Vancouver

FIRE • CASUALTY • AUTOMOBILE • INLAND MARINE

New Highs and Lows

During the week ended June 17, 81 new highs and 10 new lows were recorded among the general stocks on Canadian stock exchanges. In the mining group there were 60 new highs and 13 new lows. In western oils there were 16 new highs and eight new lows.

GENERAL

New Highs—1955

Acadia Atlan.	Foundation Co.
Algoma Steel	Gen. Bakeries
Alum. of Can. pfd.	Gen. Motors
Asbestos	Gypsum Lime
Assoc. T. & T. A pfd.	Hendershot Pfd.
Atlas Steel	Imperial Bank
Bathurst Pwr. A	Inland Nat. Gas
Br. & Tank Warr	Inter Bronze pfd.
B.A. Oil	Inter. Nickel
B.C. Power	Inter. Paper
B.C. Tele.	Langley's pfd.
Brown Co.	Laur. Accept. wts.
Burrard D. D. A	Lowneys
Caldwell Linen 1st pfd.	Maclaren Pr.
Calgary Pwr. 5% pfd.	MacMil. & Blo. B
Can. Iron	Maple Leaf M.
Cdn. Bronze	Massey-Harris
Cdn. Car. pfd. A	Maxwell Ltd.
Cdn. Collieries	McColl Fron.
Cdn. Fairbanks pfd	Melcher pfd.
Cdn. Locomo.	Mexican Lt. com.
Cdn. Oil	Midwest Ind.
Do. Warr	Mitchell, Robt. B
Cdn. Pacific	Molson Brew A
Cdn. Tire pfd.	Do. B
Cent. Can. Invest.	Morgan, H.
Comb. Enter. new	Ont. Jockey Warr.
Cons. Div. Sec. A	Ont. Steel
Cons. Smelt.	Pembina Pipe pf.
Cons. Paper	Penmans
Corby A	Premier Trust
Crown Zeller	Quebec Power
Dom. Engineer	Que. Telephone N.
Dom. F'dry	Reitman's
Dom. Magnes.	Shawinigan Pr.
Dom. Square	Silverwoods A
Dom. Stores	Stanley Brock A
Dom. Tar & Ch.	Toronto Iron A
East. Steel	Vilu Ltd.
	Westeel
	W'peg Winter Club
	Zellers 4½% pfd.

New Lows—1955

Cdn. Hydrocarbons	Grafton A
Cdn. Silk A	Ham. Cot. 5% pfd.
Cdn. Westinghouse	Nat. Hosiery B
Claude Neon B	Peoples Cred. Jr. pf.
Dom. Coal pfd.	Somerville pfd.

MINING

New Highs—1955

Aconic	Gunnar Warr.
Aumacho	Hollinger
Barvue	Hoyle
Beatrice	Int. Nickel
Beattie-Duquesne	Iso. Uran.
Beaver Lodge	Jack Waite
Belcher	Mackeno
Bicroft	Mad. Red Lake
Black Bay	Matachewan
Blue Rock	Maybrun
Bobjo	Mining Corp.
Bordulac	Mogador
Castle Trethewey	N. Athona
Chem. Research	Normetal
Chimo	Opemiska
Cons. Denison	Pater
Cons. Discovery	Placer Develop.
Cons. Howey	Pronto
Cons. Nich.	Do. Warr
Cons. Northland	Que. Nickel
Cons. Ranwick	Rayrock
Cons. Smelt.	Rowan Cons.
Cortez	Sherritt Gordon
Cusco	Tombill
Eldrich	Trans. Resources
Fab. Met.	United Asbestos
Falconbridge	United Keno
Frobisher 4% deb.	Ventures
Geco	Welgusko
Gulch	Yukeno

New Lows—1955

Akaitcho	New Formaque
Coast Copper	New Ryan
Cons. Guayana	Pickle Crow
Cons. Morrison	Prospectors Airway
Herrison Minerals	Silver Miller
Keymet	Valor
Lake Shore	

OILS

New Highs—1955

Ajax	New Concord
Bailey Selburn	Pac. Pete.
Bonnyville	Peace River
Calgary & Ed.	Ponder
Cdn. Dec. Warr.	Poplar
Cons. West Pet.	Security
Gas Explor.	Sturgeon
Marvel	Van Tor

New Lows—1955

Bulolo	Nucco
Can. Oil Lands Warr.	Que. Oil Dev.
Cdn. Williston	Select
Henderson	Wectburne

NOTICE

is hereby given that the Sun Insurance Office Limited has been granted by the Dominion Insurance Department, Certificate of Registry No. C 1583 authorizing it to transact in Canada the business of Boiler Insurance, Machinery Insurance and Real Property Insurance in addition to the classes for which it is already registered.

ROBERT P. SIMPSON,
Manager for Canada.

CERTIFICATE OF REGISTRY

Notice is hereby given that Certificate of Registry No. C1586 has been issued to THE HANOVER FIRE INSURANCE COMPANY OF NEW YORK, authorizing the Company to transact in Canada the business of Employers' Liability Insurance and Public Liability Insurance in addition to the Classes for which it is already registered.

W. BOADEN BURNS,
Chief Agent in Canada.

Toronto, Ontario, June 7th, 1955.

THE NORTH RIVER INSURANCE COMPANY

NOTICE is hereby given that The North River Insurance Company has received from the Department of Insurance, Ottawa, Certificate of Registry authorizing it to transact in Canada the business of Accident Insurance, Plate Glass Insurance and Theft Insurance, in addition to the classes for which it is already registered.

Dated at Toronto this 1st day of June, 1955.

W. G. CHAPMAN,
Resident Secretary.

AMERICAN SURETY COMPANY OF NEW YORK

Notice is hereby given that American Surety Company of New York has received from the Department of Insurance, Ottawa, Certificate of Registry No. C.1579 authorizing it to transact in Canada the business of Employers' Liability Insurance and Public Liability Insurance in addition to the classes for which it is already registered.

Dated at Toronto, Ontario, June 10, 1955.

JOHN B. ALEXANDER,
Manager for Canada

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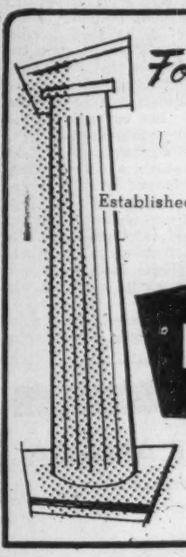

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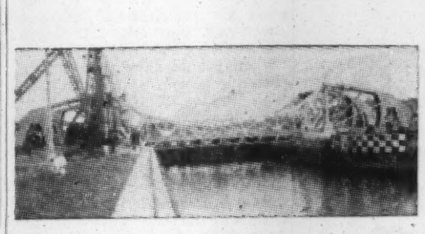

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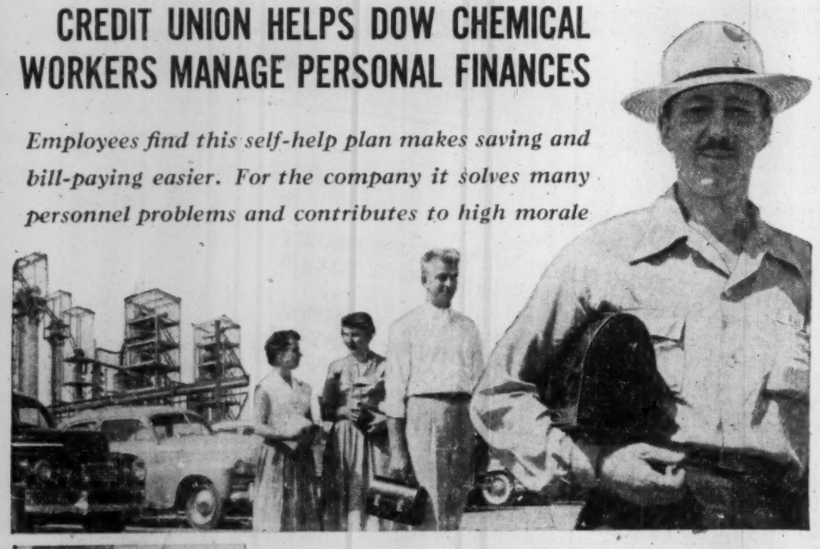
CREDIT UNION HELPS DOW CHEMICAL WORKERS MANAGE PERSONAL FINANCES

Employees find this self-help plan makes saving and bill-paying easier. For the company it solves many personnel problems and contributes to high morale

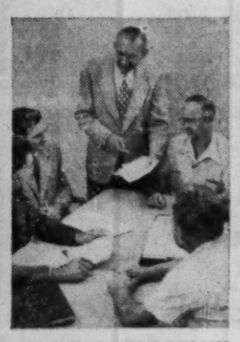


THE DOW CHEMICAL COMPANY'S *plant in Sarnia, Ontario, employs approximately 660 men and women. Dow is one of Canada's leading producers of chemicals.*

CREDIT UNION TREASURER Stan Pacenski (right) is well known to his fellow employees at Dow Chemical. Here he discusses with boiler-maker Julius Blasy (father of six children), the advantages of low-cost credit union loans to family men . . . Aim of credit unions is to give friendly, understanding help in personal money problems. Often credit unions provide life insurance on loans at no premium charge to borrowers.

"HAVING A CREDIT UNION right where we work makes saving a lot easier," says Dougald McLean, electrician. "It's given me the habit of putting something away each pay-day. My savings here pay better dividends than I ever got anywhere else." . . . As an added service, many credit unions automatically provide life insurance for savers. If a member dies, his family may receive not only his savings, but an equal amount of insurance money up to $1000.

DR. MARK E. PUTNAM, Executive Vice-President of The Dow Chemical Company, says, "I sincerely believe that we have today happier, more secure people, and a finer, more progressive community, because of the Dow Chemical Employees' Credit Union."



THE CREDIT UNION IS OPERATED by its members at no cost to management. Members take active interest in credit union affairs, serve when elected on Board of Directors (above). More than 20,000 credit unions now serve over 9 million people in the Western Hemisphere.

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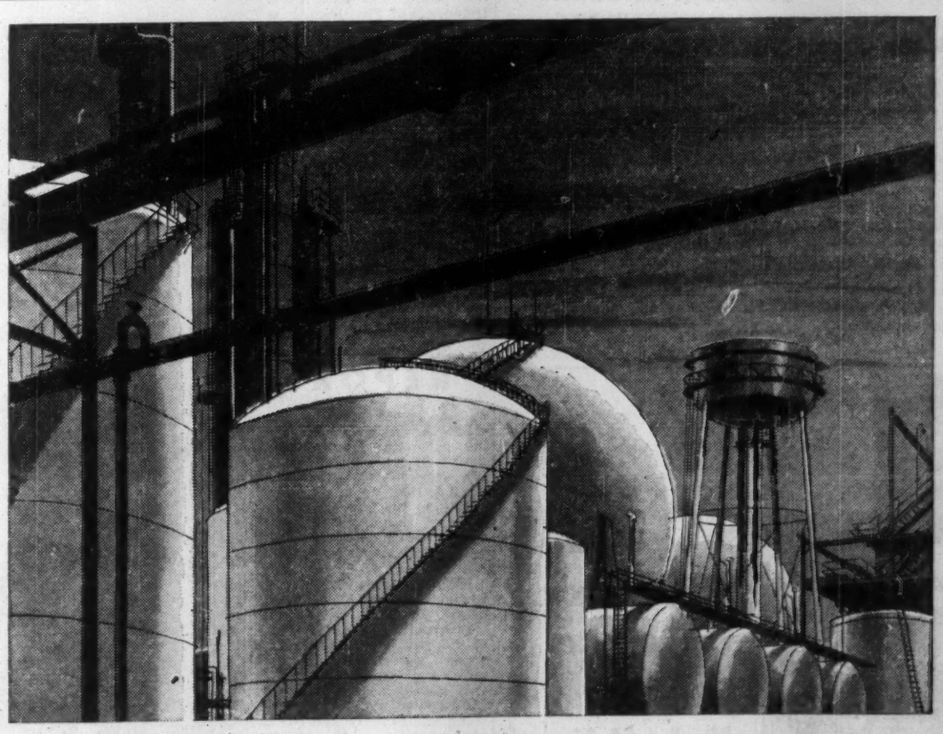

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Storage tanks are the warehouses of a modern petro-chemical plant.

They take many different forms—each designed to store a specified vapor or liquid. Regardless of type or capacity, sound engineering and good workmanship are the two essentials.

By combining experience with modern platework facilities, Bridge & Tank assures top quality through every stage of manufacture—from design through fabrication to field erection.

Storage tanks are but one of many services Bridge & Tank offers Canadian business. Whether your project is a bridge, a pressure vessel, structural steel for a building, castings or machined parts, the Bridge & Tank team of steel fabricating companies is equipped to serve you.

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Staff Changes

Commerce:

A. D. PEARCE, assistant manager, London, Ont., to be manager, Smiths Falls, Ont.

J. I. QUINN, accountant, Bloor & Ossington Toronto, to be audit officer, regional office, Toronto.

W. G. WAUGH, manager, Highland Creek, Ont., to be manager, Bank Street, Ottawa.

J. C. WILLIAMS, to be assistant accountant, London, Ont.

Your insurance protection

FIRE
AUTO
CASUALTY

By VINCENT EGAN

Before you start taking vacation pictures with your f3.5 twin-lens Superscopic reflex camera, complete with telephoto and wide-angle accessory lenses, it's wise to check up on your insurance protection on your investment. It's wise, too, to take the opportunity to see just when your family's other valuables—watches jewelry, furs, stamp collections, paintings - are covered against loss, and when they are not.

If your house burns down, taking your valuables with it, they would be covered by fire insurance. If the house explodes, supplementary coverage on your fire policy would reimburse you. If valuables are stolen in the Western Hemisphere, theft insurance (if it's the right kind) would cover your loss.

On the other hand, these policies wouldn't be of any use if your watch slipped off your wrist and into the bay, or if your camera was stolen from your table at a sidewalk cafe on the Champs Elysées, or if Willie (who'll be eight in July) tore up your stamp collection.

If you find that your insurance wouldn't cover such misfortunes as these, and if your valuables are really valuable, you might discover that "floater" policies would be worthwhile investments.

Such insurance is not particularly cheap — but neither was your watch or camera. The major categories of floater policies include fur floaters, jewelry, fine arts, stamp collection, and personal property (comprehensive) floaters. You can take out a floater corresponding to your special interests (a musical instrument floater, for instance) or to a temporary need (such as a wedding gifts floater).

Like all other forms of insurance, floater policies should be kept up to date. If your collection of porcelain miniatures hasn't been appraised since 1938, your coverage may be grossly inadequate. Particularly where jewelry and objets d'art are concerned, remember that they've served as a hedge against inflation and, because of that, have to be reappraised from time to time.

Offer A. & H. Coverage To "Uninsurables"

Canadian branches of Continental Casualty Co., Chicago, this month introduced "graded health" policies which U. S. branches have been offering since February. Potential market will be persons who have been considered uninsurable.

"We will now consider all such cases for full sickness insurance coverage," said Ross D. Heins, Canadian general manager. "When people have their health suddenly seriously impaired, perhaps the worst blow has been their inability to be protected against future sickness. We find we can now write policies for at least 98.6% of those who previously have been unable to obtain insurance."

Cost of the new policies will be from 20% to 60% above the normal premium. The extension of health insurance has been made possible as a result of greater control of disease by medicine and improved health care, plus research based on the company's experience in accident and sickness insurance, said Mr. Heins.

Independent Insurers Elect 1955-56 Officers

New officers were elected at the annual meetings of two major associations of independent insurance companies last week. The Independent Fire Insurance Conference elected W. G. Child of Willis Faber, Montreal, as its president, Douglas B. Hall of General Accident, Toronto, as first vice-president, and R. L. Grout of Provident, Montreal, as second vice-president.

New president of Independent Automobile & Casualty Insurance Conference is J. B. Humphrey of American Automobile, Toronto. Vice-president for Ontario is James A. MacNelly of Halifax Insurance, Toronto; vice-president for Quebec is John P. Gauthier of Dominion of Canada General, Montreal.

Life Firms Buy More Real Estate

Life insurance companies are showing "an increasing acceptability" for mortgage investment in income-producing properties, said P. S. Bower, assistant general manager and treasurer of Great-West Life Assurance Co., in a lecture this week. But life insurance companies still consider mortgage loans on private homes as the backbone of their real estate investment program, he added.

About 67% of the industry's investments in income-producing real estate were tied to apartment buildings, about 25% was in store property, and the remainder in industrial property, he said in a lecture to the School of Mortgage Banking of the Mortgage Bankers Association of America, at Evanston, Ill.

The life insurance industry's "recognized reluctance" to invest in mortgages on income-producing properties other than apartment buildings was due, he said, to the facts that investment departments were already so busy in the single family residential field; the general lack of understanding, and sometimes fear, of the investment potentialities of income producing property, and frequent poor experience of mortgage loans on such properties in the past.

Through growth of its equity investments, the industry was departing from its historical position as creditor and mortgagee and getting increasingly into the realm of ownership, said Mr. Bower. From this aspect, the "purchase-leaseback" as an investment medium has found acceptance among a wide group of companies.

As the economies of Canada and the U. S. grew, he predicted, insurance codes would be amended from time to time so that more equity funds could be made available by life insurance companies for the development of business and industrial properties.

COMPANY REPORTS

Food

ESSEX PACKERS LTD., Hamilton, net profit increased 13.3% to $94,255 in the year ended April 2, 1955, from $83,192 in the year ended April 3, 1954.

Sales in tons increased 9%, reflecting a 20% rise in livestock slaughter and lower purchases from other sources, H. Poworoznyk, president, states.

Net profits, he points out, are only fractionally over 1/5th of a cent a pound.

Plentiful supplies of beef and pork at more attractive prices have increased per capita consumption of meats and created a more competitive condition in the industry, he adds.

Indications in the first two months of present fiscal year are that hog slaughterings will be up about 20% from last year, and combined with lower retail prices may result in a rise in consumption of as much as 25%.

Four quarterly dividend arrears were paid on preferred shares along with regular dividends.

INCOME ACCOUNT

Years Ended:	Apr. 2 1955	Apr. 3 1954
Net earnings	$255,493	$230,366
Less: Depr.	86,749	82,782
Taxes	74,489	64,392
Net profit	94,255	83,192
Less: Pref. divds.	44,990	50,614
Surplus for year	49,265	32,578

Earnings per Share and Dividend Record:

1st pref.: Earned	$10.48	$9.25
Paid	2.50+*2.50	2.50+*3.124
2nd pref. Earned	17.94	15.17
None paid.		
Common: Earned	0.62	0.51
None paid.		

*On arrears.

Arrears on 1st pref. stk. totaled $3.124 per sh. as at Apr. 3, 1955.

CONDENSED BALANCE SHEET

As at:	Apr. 2 1955	Apr. 3 1954
Cash	$195,104	$238,685
Mkt. invests	200	200
Accts. rec. less res.	629,428	629,610
Inventories	1,112,743	955,179
Total curr. assets	1,937,475	1,823,674
Prep. expenses‡	28,523	31,203
Misc. assets	5,350	57,028
Fixed assets‡	853,131	836,232
Goodwill, formulas	51,167	51,167
Total assets	2,888,846	2,799,304
Bank loan & o/d	1,200,644	1,245,243
Other curr. liab.	139,037	136,004
Total curr. liab.	1,459,791	1,381,247
Reserves	2,425	3,074
Pref. sink. fund.	28,088	21,162
Capital stock	1,149,900	1,149,900
Capital surplus	22,800	22,800
Surplus	227,852	221,041
*After depr. of	497,044	438,073

‡Included in curr. assets in co's report.

Working capital	477,774	442,427

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Would the Insurance Cover the Cost of Rebuilding?
If a fire were to destroy a property insured by you, would the insurance be adequate to cover the cost of rebuilding? If not, would you be blamed by the owner for not having brought to his attention that increased building costs should be reflected in the amount of insurance carried? No agent should hesitate to point out to his clients the importance of insurance based on present replacement costs.
PEARL ASSURANCE COMPANY LIMITED of London England
THE EUREKA-SECURITY FIRE AND MARINE INSURANCE COMPANY
INCORPORATED 1864 - SAME YEAR AS PEARL — POLICIES GUARANTEED BY THE PEARL
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W. C. BUTLER Manager for Canada
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ALL FORMS OF FIRE AND CASUALTY INSURANCE

FACTS ON QUEBEC (No. 8)
Selling Gasoline & Lubricants in Rural Quebec?
QUÉBEC
Over half your prospects are in small town and rural Quebec. 53% of all passenger cars and 55% of all motor vehicles registered in Quebec in 1953 were in towns and villages of under 10,000 population, almost twice the registration in Montreal and district. This does not include over 40,000 unregistered farm tractors and about 40,000 other gas engines on farms.
In this extremely important automotive market, Le Bulletin des Agriculteurs with 150,000 circulation (net paid A.B.C.) offers 44% coverage. The largest French weekend newspaper and French magazine reach only 22% and 16% of these homes respectively.
Do your products get the advertising coverage they need in small town and rural Quebec?
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New York: Billingslea & Ficke, 420 Lexington Ave.

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The B-A PLEDGE
WE AT B-A MAKE THIS PROMISE TO THE MOTORING PUBLIC. WE WILL NOT PERMIT A SINGLE COMPETITOR—no, not a single one—TO OFFER GASOLINES SUPERIOR TO OUR NEW 1955 B-A 88 AND 98.
IT IS OUR SINCERE BELIEF THAT NEW 1955 B-A 88 AND 98 ARE THE FINEST GASOLINES IN CANADA TODAY, AND, NO MATTER WHAT OTHERS DO OR SAY WE WILL KEEP THEM THE FINEST—IN POWER, IN PERFORMANCE, IN ENGINE PROTECTION.
IT IS ALSO OUR BELIEF THAT YOU CAN'T BUY A BETTER MOTOR OIL THAN OUR OWN PEERLESS HEAVY DUTY MOTOR OIL.
THIS IS NOT A BOAST, NOT A CLAIM. IT IS A PLEDGE TO YOU, THE CANADIAN MOTORIST—A PLEDGE BACKED BY THE RESOURCES—and the integrity—OF THE BRITISH AMERICAN OIL COMPANY LIMITED.
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THE BRITISH AMERICAN OIL COMPANY LIMITED

No Mortgage Worries for New Homeowners

New Plan Will Ensure Mortgage is Paid Off!

Last summer, a young couple bought a home in a quiet suburban area for $15,000. They paid $5,000 down, with a 20 year mortgage for $10,000. As things stand, they should have no trouble paying it off.

The husband is taking no chances. He has a Confederation Life Mortgage Insurance Plan, with a Total Disability Clause. For $8.31 a month Confederation will pay off his mortgage in case of death. If he becomes disabled, the policy remains in force at no cost to him.

Yes, for less than 1% of your initial mortgage, providing you are under 35, you can protect your family from foreclosure at the time of your death.

Features of the Confederation Life Plan

1. This Mortgage Insurance Plan may be purchased on a 15, 20 or 25 year basis.
2. The cost reduces in later years.
3. After the mortgage period you may continue the protection at reduced cost, or receive a cash payment.

Confederation Life ASSOCIATION

For Free Booklet, "Not for Sale," call:

Your Confederation Life representative

55-21

How Morale Pays Dividends

Here's Million-Dollar Answer To Employee Illness

Industrial doctors from two continents are meeting in Toronto this week to compare preventive medicine and treatment methods and to plan new ways of reducing industry's lost time tolls. Physicians from Britain and Canada are holding occupational medicine conferences in conjunction with the joint meetings of the British, Canadian, and Ontario Medical Associations and they are learning that industries the world over have much the same problems in coping with the ever-mounting costs of time loss caused by sickness.

One group of Canadian doctors, however, has found an answer to part of the problem and it may have helped their corporation save millions of dollars. Dr. W. Harvey Cruickshank, medical director for Bell Telephone Co. and associate Dr. J. H. Baillie reported that their sickness-lost-time per worker record had dropped substantially in recent years and that it was now considerably below the average loss faced by similar companies operating in the U. S. and other Canadian industries.

Bell pays about $2 millions per year in sickness pay, they reported, and it would be two or three times as much if the company's sickness rate hadn't been dropping steadily during the past five years.

The full answer is complex but the most significant factor appears to be morale, they reported.

In a paper delivered this week, Dr. Baillie told the industrial doctors that Bell had compiled statistical evidence proving that morale and a sense of importance were major factors in keeping employees on the job. The telephone company's figures show that the personality of the boss also can have a considerable effect on lost time sickness and they showed how the work group size affected absenteeism. The smaller the group, the lower the incidence of sickness.

"Actually, however," said Bell medical director Cruickshank, "we're just on the threshold. No one really knows very much about industrial sickness causes and costs but industry must begin paying much more attention to them now, because no one else will . . . and it's industry that has to foot the bill."

Among the baffling problems the doctors have yet to solve are the high sickness rates of female workers and the emotional disturbances that result in "sickness prone" persons. Females lose about twice as much time as a result of sickness than men do yet all medical evidence indicates it should be the other way around. At least, women generally are medically stronger than men and it appears that the high female absenteeism rates can only be explained by emotional or morale factors. Sickness prone statistics, brought out at the conference, show that about 80% of industrial sickness lost time is caused by some 25% of a working force.

Alcoholism Problem

Other industrial medicine topics discussed at the conference this week included alcoholism, tension diseases, lost time statistical methods, resuscitation of industrial accident victims, the doctors' role on the management team, and skin diseases common to industrial workers.

Alcoholism is probably the greatest single medical problem faced by industries the world over, the doctors agreed, yet few companies are doing much about it as yet. Incidence of alcoholism seems to be highest among the higher intelligence levels, such as in the skilled worker class. It is a growing problem in executive fields, though not nearly as common as popularly believed. Alcoholism Research Foundation figures show Canada has 1,804 alcoholics per 100,000 adult population. The U. S. has 3,952.

It is a belief of most of the industrial doctors that the alcoholics, the sickness-prone, and the severe tension sufferers must be rehabilitated not only for humane reasons and in the national interest but also for the cost benefit of each individual corporation. A great many insecure people make tremendous contributions to industry, they feel. In fact, tension is considered by many to be a prime motivating force and an aid in the successful conclusion of a short-term crisis.

Although most of the conference was devoted to sickness and its effect on industrial costs, considerable time was also spent on diseases arising directly out of industrial employment and in the study of industrial accidents.

One of the best received papers at the conference was delivered by Dr. Ian Urquhart, Ontario Hydro's medical officer. Dr. Urquhart was critical of what he called "widespread ignorance" among physicians of the proper treatments for electrical shock. He revealed that the Ontario Hydro electrical shock death rate averaged four per year, although in the past two years that figure had been cut in half. "We're not proud of our record," he said, in view of the fact that if immediate resuscitation is begun the victim usually has a fighting chance for life.

The Hydro doctor cited a case of an employee who survived a 26,000-volt shock . . . but only after eight hours of intense resuscitation efforts. He revealed that serious shock cases had a 70% chance of survival if effective treatment began within three minutes of the accident. If more than three minutes has elapsed, the survival chance is reduced to 20%.

Discussion following Dr. Urquhart's paper revealed the industrial doctors' unanimous opinion that mechanical inhalators were of very little value around an industrial plant or in the field. "There's never one around when we need one within the critical three minute period after an accident," said Dr. John Rogan of London, Eng.

Statistics Too

One of the medical profession's newest problems also came in for serious discussion. It's the adequate development of morbidity standards, the typing and assessing of illnesses and accidents associated with different industrial occupations.

Nowhere in the world do industries really know which illnesses are costing them money, medical statistician Dr. A. H. Sellers, of Toronto pointed out. He cited the common knowledge that women lose more time than men, that persons under 25 tend to be absent more frequently than older workers, that older workers are sick longer when they do get sick.

But, he pointed out, this and other information is of little benefit to us unless we know what real or imagined illnesses are keeping them away from jobs for periods ranging from hours to weeks.

He called upon the industrial doctors to begin an educational program aimed at informing management how medical-statistical work, properly conducted, could form the basis for a profitable program of industrial preventive medicine. "A good medical department in an industry is not enough," he said. "We must be concerned with more than treatment of injuries and 'industrial' diseases. We must pave the way toward full understanding of the causes of sickness lost time and then devise methods of reducing this costly absenteeism," he said.

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Pipeline Bond Issue Sold

Peace River Oil Pipe Line Co., has completed financing of its pipe line which will gather oil in the Sturgeon Lake area of Alberta and move it to the Trans-Mountain Oil Pipe Line.

An issue of $5,625,000 3¾% first mortgage bonds, series A maturing serially Jan. 1 and July 1, 1959 to 1970 has been sold privately by a syndicate of investment dealers headed by Harris & Partners.

The bonds maturing in 1966 to 1970 were offered at about $97.53 to yield 4%. Earlier maturities were sold previously.

Proceeds of the issue and of 187,494 common shares to be taken up by interested oil companies will total about $7,454,940 and will be used to the extent of $7,099,600 to pay for the projected pipe line.

Initial capacity of the line will be 40,500 barrels daily and maximum capacity is planned at 57,600. The line will consist of about 106 miles of main trunk and 57 miles of gathering system. Some 45 miles of the main trunk will be 16-inch diameter and about 61 miles will be 12¾ inches.

The prospectus includes a table of estimated earnings based on earnings of 8% on mid-year investment, before interest but after all charges. This table shows net income of $377,300 in 1956 declining steadily to $268,600 in 1970 with throughput rising from 15,618 barrels daily to 22,663 in 1962-63 and then tapering off to 20,069 barrels in 1970.

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Craig Bit Profits Rise In 9 Months

Net profit of Craig Bit Co., increased sharply in the nine months ended March 31, 1955 to $43,306 from $4,589 in the same period last year. Results shown in a quarterly statement are subject to year-end audit.

Operating profit climbed to $143,273 from $73,759. Selling and administrative expenses were down at $67,670 ($68,023) and income taxes increased to $32,297 ($1,147).

Working capital climbed to $410,109 from $298,573 a year ago. Cash is up at $97,655 ($4,710) and a bank loan of $15,000 has been eliminated.

NEW ANTI-SUBMARINE WEAPON

The largest single order for helicopters ever given to a British aircraft manufacturer has been awarded to the Bristol Aeroplane Company. This order calls for the production of about 100 twin-engine twin rotor helicopters for the Royal Navy and the Royal Air Force.

Equipped with the latest detection devices and armed with strike weapons, this anti-submarine helicopter will be able not only to search for submarines effectively, but also to precisely locate and destroy them.

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Making Money In the Market

A series on investing — what it is, how to invest, its risks and opportunities, how it can work for you.

Time, Method Studies Help Here Too

If you buy and sell securities, "how" and "when" can be as important as "what." In this twelfth article in The Financial Post's series on investing, some well known market systems are explained. They can help to take the emotionalism out of your investment program, and put more profits into it.

By VINCENT EGAN

Knowing **what** to buy is the first requisite in attaining your investment objective. You don't tell your broker to buy so many dollars' worth of stocks and bonds; rather, you tell him what stocks and what bonds you have chosen, after consultation with him on the nature of the portfolio and some of the securities that would fit your plan.

But knowing **how** to buy, and **when** to buy, will increase your chances of making money in the market. It's possible to make one dollar do the work of two or more, to avoid emotional decisions that can mean financial loss, to make profits when others are taking losses.

For most people, probably, buying securities for cash is the soundest policy. But for some, the use of borrowed money has its attractions.

For instance, by buying on "margin," an investor can greatly increase his potential for profit—and for loss. To illustrate, an investor may have $2,000 earmarked for investment in bonds. He may find that he can buy a 5% corporation bond selling at 80 (that is, 80% of its par value). At that price, he could buy $10,000 par value of oonds by putting up his $2,000 in cash and borrowing $6,000 from his bank, which would hold the $10,000 bond as security for the loan.

He would then have an annual income of $500 in bond interest. If the bank charged him 4½% interest on the $6,000 loan, it would cost him $270. Therefore the investor is receiving a net income of $230 ($500 interest less $270 expense) on the $2,000 he invested. That's a yield of 11½%—nearly twice as much as if he had invested without borrowing.

There's another and more risky aspect to "leverage," as this principle is called. If bond prices go down, the market value of the investment drops and the investors may be forced to put up more money to cover the difference between the loan value of his bond and the amount of the loan. On paper, the loss is greater than if the same amount had been spent on a strictly cash purchase. But, taking the longterm view, any temporary paper loss should turn into an eventual profit since a bond is a promise to pay a fixed sum at a certain date. Even if the bond you buy at 80 today slips to 75 tomorrow, it should be 100 some day so long as the borrower is sound.

In buying stock on margin, the investor has to make a larger down payment. On Canadian exchanges, the buyer must put up at least 50% of the purchase price, and only stocks selling at over $1 a share may be bought on margin. Because the market value of a portfolio must always be at least double the amount of the loan, most margin users don't borrow up to the maximum allowable so that they have some cushion in the event of a market decline.

When you buy on margin, you are investing with some of your own money and some of somebody else's. If you buy 200 shares of Midget Widget common at $10 a share, you could put up $1,000 and in effect borrow the other $1,000 from your stockbroker, who retains the stock as security for the loan.

Since he in turn borrows the $1,000 from his bank, he charges you interest sufficient to cover the bank interest and leave a little to compensate himself for his efforts.

To some people, investing on margin still bears a stigma dating back to 1929, when excessive buying on margin preceded the market crash. But margin requirements are much more stringent now.

There is certainly greater risk in margin buying than in buying stocks outright, and only those who can afford the risk should buy this way. But it is generally accepted that borrowing at 5% to earn 10% is good practice whether the loan is put to work in the stock market or in some other sphere of business activity.

Comparatively little buying is currently being done on margin; recent figures compiled by the Toronto Stock Exchange showed that brokers' loans totaled $54.2 millions—only 0.15% of quoted TSE market values of $36,495 millions. Several Canadian investment houses do not handle any margin business at all because of unhappy experience in the crash.

Selling Short

A lingering stigma seems to be attached, too, to another legitimate stock market activity known as "short selling." The term means the sale of stock for future delivery; in other words, the short seller sells a stock first and buys it later. The operation is similar to the action of a prairie farmer in selling his flax in the spring for delivery in the fall—or, in fact, to the practice of any enterprise which sells for future delivery goods which it hasn't yet bought.

An investor sells a stock short because he thinks its price will go down. You may feel convinced that Midget Widget is not worth its current market price of $10 a share, so you sell short 200 shares at $10.

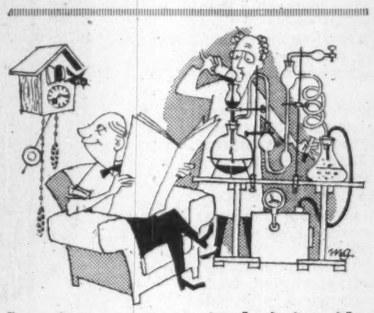
Some other investor has bought stock from you, and you must deliver. Your investment dealer or stockbroker therefore borrows 200 shares from a willing lender, paying him the full $2,000. The 200 shares are then delivered to the purchaser, who pays your broker $2,000. In the meantime, you have deposited 50% margin, or $1,000, with your broker.

Then you wait and hope that the price of Midget Widget will go down. If your judgment proves right, it may decline from $10 to $8. You could then tell your broker to buy 200 shares for $1,600, send the stock back to the lender, and realize a $400 profit. (For simplicity, commission charges have been overlooked in this illustration.)

If your judgment proved wrong and the stock went up $2 a share, you would lose $400 in "covering" your short sale at that price. A short seller takes somewhat greater risks because theoretically, there is no limit to his loss if a stock he has sold short keeps going up in price.

Assuming that you've decided what security you want and how to buy it (or sell it short), the only remaining decision to be made is when to buy. Obviously, you will make money if you buy when prices are low and sell when they are high. But since the terms "low" and "high" are relative, the individual investor must decide for himself when prices are low enough to justify buying, and high enough to warrant selling.

Some investors act on simple timing aids, others use complicated formulas. To help in determining the times to buy or sell securities, numerous market systems have been offered—including some based on astrology or sunspots. Some systems have many thousands of convinced followers, while others are known only to their originators.



Some investors act on simple timing aids, others use complicated formulas . . .

One method that is extremely simple and widely followed is called dollar averaging. It consists of investing a fixed number of dollars in the purchase of stocks at fixed, predetermined intervals of time, regardless of stock prices. Since a fixed sum will buy more shares when prices are low than when they are high, and since the historical trend of stock prices is upward, the theory is that the average price per share in the long run will prove low.

To illustrate, assume that you put aside $80 a month to invest in stocks at regular six-month intervals, and the price of the stock you selected fluctuates as follows:

Date	Price per sh. $	No. of shares bought
July 1, 1955	8	60
Jan. 1, 1956	10	48
July 1, 1956	12	40
Jan. 1, 1957	16	30
July 1, 1957	15	32
Jan. 1, 1958	12	40

By Jan. 1, 1958, you would have bought 250 shares at a cost of $2,880, or an average of $11.52 per share. This is only a little less than the current price of $12, but the average cost will rise more slowly than the market price, thus widening the gap in favor of the investor.

Dollar averaging works only when the investor knows that he will have a fixed amount of cash to invest at predetermined intervals—and knows that he has the courage to invest it even when prices are in a downtrend.

Regularity is essential; the number of dollars and the interval are unimportant. This system is no guarantee of investment success, but it does relieve the investor of the necessity of judging price levels, and it keeps him from being stampeded into unwise moves because of the psychological climate of the moment.

What's Normal?

Formula plans also require the investor to adhere strictly to a schedule. Basic to most of these plans is a norm or middle point, although the plans differ in their definition of normal.

One of the simplest formula plans is to keep a certain number of dollars invested in stocks. You might begin with $5,000. If stock prices go down, you would buy more stocks to bring the market value of your portfolio up to $5,000. When prices go up, you would sell stocks (at a profit, of course) to reduce the value of your portfolio to $5,000.

Another such plan requires that the ratio of stocks to cash (or bonds) remain constant. When stock prices decline, the investor uses some of his cash to buy more stock and thus restore the original ratio. When stocks go up, he sells enough of them again to restore the original ratio. Each time the stock returns to its original price, the investor has more shares and more cash.

Although this constant stock-cash ratio plan has many adherents, still more popular are the variable stock-cash ratio plans. Characteristically, they require the investor to buy more shares when stock prices are below normal, and to sell stocks when they are above normal. A typical plan might be graduated in such a way that 50% of the investor's portfolio should be invested in common stocks when the market is normal, with this percentage getting steadily lower until the investor is completely out of stocks when prices are, say, 150% of normal.

The success of such plans is directly related to the validity of their choice of a norm. If it is too low, the investor will be discouraged to find himself completely out of stocks while prices are rising higher and higher.

Hedging, as a market device, is probably best left to experienced investors. If an investor feels that the common stock of a company is going to decline, but that the convertible bonds or convertible preferreds of the same company will not suffer as much, he can "hedge" by buying the convertible and selling short the same dollar value of the common against it. If the stock goes up, he converts the senior issue into common with only the loss of brokerage fees. If the stock goes down considerably more than the senior issue, the profit he makes in buying common shares to cover his short position more than offsets the loss he would take on selling out the senior issue.

Compounding is, in theory, an excellent way to snowball the money you make in the stock market. In practice, it is sometimes difficult to apply.

If an investor can earn just 6% on his investment portfolio each year (in dividends, capital profits or both) and can reinvest that 6% as soon as it's earned, the value of his portfolio will double itself every 12 years. If you could invest $1,000 at 6% compound interest today, it would grow to $18,420.15 in 50 years.

Unfortunately, the income that a small investor receives may not be big enough to be reinvested conveniently. Or the investor may require it for his current living expenses, and be unable to spare it for reinvestment.

Dow's Theory

The best known of all market systems is the Dow Theory. Its influence is out of proportion to the number of its adherents; many "unbelievers" act in accordance with the Dow, because they know that the actions of sizeable numbers of Dow adherents are sufficient in themselves to influence the market strongly.

This famous theory was developed by Charles H. Dow about the turn of the century. It assumes that a market trend, once established, will continue in the same direction until eventually it loses momentum. Prices will then move within a narrow range until the market either resumes or reverses the previous trend.

The "market" is measured by a group of 30 leading industrial stocks and 20 leading railroad stocks which are listed on the New York Stock Exchange and are called the Dow-Jones Index of Industrials and the Dow-Jones Index of Rails. Dow chose two indices as a safety measure; one index must confirm the "signal" given by the other before the trend is considered to have been established firmly.

In addition to the major trend which lasts for several years, the Dow theory distinguishes two other market trends—the secondary trend, lasting for several weeks or months and made up of a succession of minor movements; and the minor trend, lasting for several hours or days.

This is the barest outline of some of the main tenets of an involved theory. An investor needs an expert Dow analyst to guide him in interpreting the theory and in acting upon it. The theory has both its apostles and it detractors. Its critics point to many alleged shortcomings in the Dow theory, including the fact that it gives a buying signal only after the market has had a substantial rise, and a selling signal only when prices are considerably below their peaks.

But Dow theorists are legion, and there are innumerable variations and adaptations of the theory in use. Followers appear to be well satisfied with the results they achieve through the theory's application — even if they are not always unanimous in their interpretation of the current signal.

With the exception of dollar averaging, all of the market systems described here are based on the timing of stock market transactions and assume that at least some of the stock portfolio will be sold when markets rise.

To some people in the investment community, this is little more than speculation. They hold that stocks should be bought on the basis of inherent value, rather than being traded when market conditions are opportune. Others believe that since it is unwise to buy stocks when they are over valued (that is, priced too high), then it follows that they should be sold at such times.

But all experienced investors would probably agree that it's just as important to sell securities intelligently as to buy them intelligently. For many people, it's difficult to prevent emotion from taking precedence over intelligence in reaching decisions as to what to do in the stock market. If that's your problem, perhaps adherence to a sound formula would be the key to investment success.

Airlines Flying Miles Equal 18,000 Round Trips to Moon

To the moon and back, 18,000 times — that represents the total mileage flown by the world's airlines since the Second World War.

A recent stocktaking showed that in the past 10 years trips flown would have been enough to carry the whole population of Sweden round the world, to freight all the coffee in Brazil across the South Atlantic, to fly 15 million letters each week around the globe at the equator.

To accomplish the 47 million aircraft hours of civil air transport logged since 1945, a single machine would have to fly nonstop for 5,365 years.

These are points from a new booklet issued jointly by the International Civil Aviation Organization (made up of governments), and the International Air Transport Association, of the scheduled airlines. Both organizations celebrate their tenth anniversaries this year, and the booklet records the accomplishments of 65 nations and 72 airlines.

"Every Five Seconds" a scheduled airliner takes off, and that's what the booklet is called.

Since Second World War, governments have agreed on 15 international "codes of the sky," each for a phase of civil air operations.

Shipping Firm Plans Great Lakes Growth

Looking to future expansion resulting from construction of the St. Lawrence Seaway, Moore-McCormack Lines is opening offices in Toronto and Montreal.

Effective July 1, Moore-McCormack Lines (Canada) Ltd. will have offices at 69 Yonge St. in Toronto and 410 St. Nicholas St. in Montreal. The company has been represented at St. Lawrence ports in the past by Montreal Shipping Co.

When the Seaway is complete M-M plans to serve Great Lakes ports in both the South American east coast and Scandinavian and Baltic trades.

Staff Changes

Chartered banks announce the following staff changes:

Royal:

P. F. PROUDFOOT, appointed accountant at Point Fortin, Trinidad.

V. A. BROWN, appointed accountant at Caracas, Venez.

J. H. STECH, appointed accountant at Ciudad Trujillo, D.R.

M. F. LIMAT, appointed accountant at Paris, France.

B. A. GREAUX, appointed accountant at Camp St., Georgetown, B.G.

L. RODRIGUEZ, Santiago de los Caballeros, D.R., retired.

W. A. HYNDMAN continues as manager, main office, Calgary, which has been moved to 8th Ave. & 4th St. W.

H. N. STEWART, A. D. RAFUSE, W. R. MacGREGOR, assistant managers, 8th Ave. & 4th St. W., Calgary.

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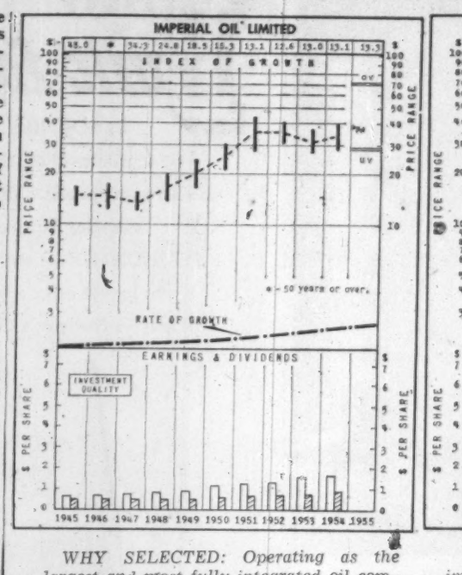
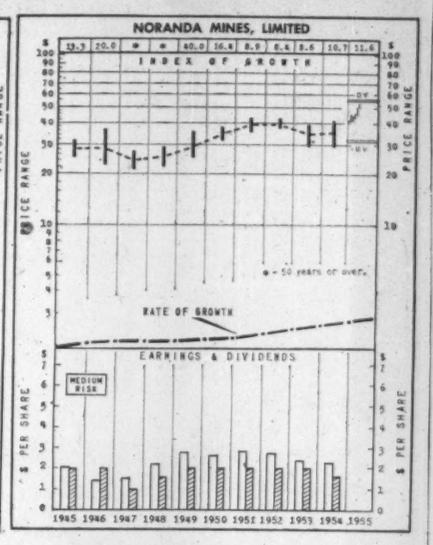
Selected Growth Stocks — Quarterly Review — By NESTOR

The Financial Post's exclusive series of Selected Growth Stocks was chosen by one of the continent's most prominent and successful investment advisers. The reasons for choice shown below the accompanying charts were those given when stocks were chosen in January, 1953. Each will be reviewed quarterly. Publication of this series in The Post does not constitute a recommendation to buy these stocks.



WHY SELECTED: Operating as the largest and most fully integrated oil company in this country, Imperial has the outstanding record for oil discovery in Western Canada. Reserves should continue to expand as active exploration progressively develops the company's choice of 25 million acres (5/6 of an acre per share) in the Canadian oil basin.



WHY SELECTED: One of Canada's most important mining enterprises, Noranda is third in copper production, fourth in gold output. A large portfolio of investments is maintained. Company, together with subsidiary and associated companies, holds 44.5% interest in Kerr-Addison, leading gold producer. Diversification of Noranda's interests tends to moderate cyclical changes in earnings.

How To Read the Stock Charts

INDEX OF GROWTH: The rate at which the value of the equity behind the stock is doubling as determined by the growth rate at which it entered the year. A figure of 5.6 for the present year would indicate that at its current growth rate the equity value is doubling every 5.6 years.

PRICE RANGE: The annual high, low and mean price. Monthly ranges for the current year.

UNDERVALUATION AND OVERVALUATION PRICE LEVELS: Shown by the narrow horizontal lines above and below the stock's price range indicating price at which the particular stock is adjudged as underestimating or overestimating its future rate of growth. A stock showing a fast-growth rate will sometimes anticipate growth by two or three years. In this case it may not be so attractive a purchase relatively as some other fast-growing stock that is not anticipating its growth beyond the immediate present. Other factors such as rate of growth and investment quality will also enter into the comparison an investor will want to make.

Without these UV and OV levels, a current quotation of say, 55 or 75 would carry no significance regarding long-range value. The UV/OV levels also permit judgment as between one stock and another. They are not designated points of purchase or sale, nor do they attempt to show what will be a stock's bottom or top figure in any given year.

RATE OF GROWTH: The rate as based on Nestor's tests, at which the company is showing underlying or long-term growth. This will determine the price trend of the company's common stock over a period of years and in most instances the trend of dividend payments.

Background and principles behind the selection by Nestor were discussed in a special article in The Financial Post, Jan. 10, 1953. A limited number of reprints are available on request.

Imp. Oil

Imperial Oil stronger recently at $39, 23½ times '54 earnings and yielding 2.31%. Price is 34% above UV level, and leaves room for 79% rise before stock would reach OV level. Price range so far in '55 $40-$35½.

First quarter earnings down somewhat at $12.9 millions ($13.7 millions in comparable '54 period), equal to 43c (45c) per share. First quarter sales volume for all products up 7%, with service station sales up even more.

Earnings hit by lower prices than year earlier. Reductions in products prices in June and July, 1954, a 9c per bbl. reduction in crude prices in October and further 7c reduction in January. Consequent adverse effect on earnings partly offset by stepup in operations and sales volume, and by reduction in corporate income tax rates equal to 2% of net profit.

Outlets for crude output continue to expand. Export market to Pacific due to be enlarged substantially by new refinery at Anacortes, Wash. scheduled to start operation in final quarter this year. In Minneapolis, large refinery being built to process Canadian crude (mainly from Saskatchewan via Interprovincial Lakehead pipeline system).

Canada's oil output rose 20% last year to average of 267,000 bbl. daily due to greater Canadian consumption, greater Canadian refinery capacity and new export markets. Canadian oil producers supplied 56% of 1954 national needs, against 46% of smaller total in '53.

Now $4.5 million plant to make New $4.5 million plant to make other waxes being built by Imperial at Sarnia.

Noranda

Noranda Mines common just 2% rise short of OV level at recent $53 a share market price, and 66% above UV level. Price is 24 times '54 earnings and provides yield of 3.78%. Taking into account 2-for-1 stock split, '55 price range $54½-$40.

New sulphur-iron project using process similar to new plant at Port Robinson, Ont. now planned to supply sulphuric acid from Blind River area uranium plants. Raw material for plant, as at Port Robinson, will be pyrites from Noranda's Rouyn holdings. Target date for completion based on scheduled July 1956 startup of Algom Uranium's first of two new mills. Capacity of plant is estimated at 500 tons of acid daily, 350 tons high grade iron sinter and around 70 tons elemental sulphur.

First quarter net profit equal to $1.46 a share compared with 28c a share in '54 first quarter when strike still on. Last half earnings in '54 were $2.93 a share.

Copper prices continue strong. Company regards 36c per lb. level in U. S. and higher London prices as detrimental to competitive position of copper, due to encouragement of switch to other metals such as aluminum in traditional copper uses.

Gaspe Copper Mines started milling ore at 1,500 tons per day rate in mid-April and due to increase output now with use of hydro power from north shore of St. Lawrence. Noranda owns 95% of stock.

ONE VIEW OF THE MARKET

Here Are Stocks Traded By Imperial Life in '54

Canadian life insurance companies have an investment of $80 millions in Canadian stocks. As a service to its readers, The Financial Post presents here one of a series reporting on the holdings of individual companies, as well as changes in their portfolios of Canadian preferred and common stocks last year.

Imperial Life Assurance Co. of Canada, Toronto, reduced its holdings of Canadian preferred stocks in 1954 and increased the proportion of its assets invested in Canadian common stocks. The preferred stock share at Dec. 31, 1954 was only 1.7% of total assets compared with 2.1% a year earlier, while the common stock holdings represented 3.7% of assets (3.5% at Dec. 31, 1953).

Stocks were carried at $11,082,684 on the company's balance sheet at Dec. 31, 1954.

Among the preferred stocks, five were eliminated from the portfolio including Abitibi Power & Paper $1.50 preferred (redeemed), Dominion Foundries & Steel 5%, Dominion Glass Co. 7%, Price Bros. & Co. 4%, Shirriffs Ltd. 5%, and Shawinigan Water & Power "B" 4½%. There was a small reduction in holdings of Aluminum Co. of Canada 5¼%, a big reduction in Gordon Mackay & Stores 50c preferred, and a small increase in Western Assurance 12%.

Company added to its holdings of bank and trust stocks through purchases of further shares in Bank of Montreal, Royal Bank of Canada and Canada Permanent Mortgage Corp.

It bought more Price Bros. & Co. common, eliminated Brazilian Traction Light & Power common and reduced its holdings of Consumers' Gas stock.

Here are its holdings of Canadian preferred and common stocks at Dec. 31, 1954, together with changes from the previous year end.

	Shares at Dec. 31 1954	Change since Dec. 31 1953
Preferred		
Abitibi P. & P. $1.50	....	—7,700
Aluminium Co. of Can. 4%	10,795	—55
Do. 5¼%	1,500	....
Brazil Traction, Lt. & Pwr. Co. 6%	197	....
B.C. Elec. Co. Ltd. 4½%	1,000	....
Cdn. Celanese Ltd. $1.00	300	....
Cdn Fairb.-M. Ltd. 6%	200	....
Cent. Can. Investments Ltd. 5%	1,700	....
Dom. F'dries & Steel Co. Ltd. 5%	....	—1,000
Dom. Glass Co. Ltd. 7%	....	—2,000
Dom. Tar. & Chem. Co. Ltd. $1.00	830	....
Dom. Tex. Co. Ltd. 7%	175	....
Gatineau Pwr. Co. 5%	800	....
Do. 5½%	200	....
Gord. Mackay & Stores Ltd. 50 cents	900	—2,920
H. Morgan & Co. Ltd. 4.75%	750	....
Howard Smith Paper Mills Ltd. $2.00	2,475	....
Imperial Tobacco Co. Can. Ltd. 6%	30,000	....
National Drug & Chem. Co. Ltd. 60 cents	350	....
Price Bros. & Co. Ltd. 4%	....	—1,000
P. L. Robertson Mfg. Co. Ltd. 6%	1,250	....
Sag. Pwr. Co. Ltd. 4½%	1,550	....
Shawinigan W. & Pwr. Co. A 4%	10,000	....
Do. B 4½%	....	—1,500
Shirriffs Ltd. 5%	1,920	....
Trad. Finance Corp. Ltd. 4½%	500	....
Do. $2.00	1,125	....
Western Assce. Co. 12%	1,806	+4
Geo. Weston Ltd. 4½%	1,500	....
Common		
Bank of Montreal	10,037	+2,007
Bank of Nova Scotia	9,375	....
Bank of Toronto	9,380	....
Canadian Bank of Comm.	17,500	....
Dominion Bank	9,655	....
Imperial Bank of Canada	9,825	....
Royal Bank of Canada	10,800	+1,800
Can. Perm. Mtge. Corp.	2,575	+575
National Tr. Co. Ltd.	1,200	....
Toronto General Trusts Corp. Ltd.	5,730	....
Aluminium Ltd.	11,419	....
Brazil Traction Lt. & Pwr. Co. Ltd.	....	—4,600
B.A. Oil Co. Ltd.	7,000	....
B.C. Cement Co. Ltd.	50	....
Cent. Can. Invest. Ltd.	15,000	....
Consolidated Mining & Smelt. Co. of Can.	7,575	....
Cons. Paper Corp.	3,000	....
Consumers Gas Co. of Toronto	16,900	—3,950
Distill. Corp.-Seag. Ltd.	5,000	....
H. Walker-Gooderham & Worts Ltd.	1,000	....
Imperial Oil Ltd.	1,100	....
International Nickel Co. of Canada Ltd.	10,000	....
McIntyre Porc. Mines Ltd.	2,800	....
Massey-Harris.-Ferg. Co. Ltd.	12,500	....
Moore Corp. Ltd.	350	....
Noranda Mines Ltd.	2,900	....
Price Bros. & Co. Ltd.	4,500	+500
Russell Industries Ltd.	4,000	....
Trad. Fin. Corp.	10,000	....

The company's invested assets at year end consisted of 58.3% bonds, 26% mortgages, 6.1% policy loans, 5.4% stocks, 3.6% real estate and 0.6% other investments. An analysis of invested assets at the end of each of the last four years shows as follows:

Analysis of Invested Assets

	1954	1953	1952	1951
	%	%	%	%
Bonds:				
Government	33.2	36.6	39.0	42.5
Municipal	4.6	4.8	5.1	4.8
Other	20.5	19.9	20.7	21.2
Total	58.3	61.3	64.8	68.5
Mortgages:				
Farm	0.4	0.5	0.7	0.7
Urban	25.6	22.0	16.4	16.0
Total	26.0	22.5	19.1	16.7
Policy Loans	6.1	6.2	6.3	6.2
Stocks:				
(a) Preferred	1.7	2.1	2.4	2.8
(b) Common	3.7	3.5	3.3	2.7
Total	5.4	5.6	5.7	5.5
Real Estate	3.6	3.8	3.6	2.3
Other	0.6	0.6	0.5	0.8
Grand Total	100.0	100.0	100.0	100.0

Local Firm Lands Major Gagetown Services Contract

From Our Own Correspondent

FREDERICTON — Diamond Construction Co. this city has been awarded a 3,342,326 contract to supply general services to the married quarter's development at Camp Gagetown. The contract covers road bases, underdrains, catchbasins, storm and sanitary sewerage, collection system and water distribution system for neighborhoods one, two and three.

Work is expected to begin this month. Tenders for construction of the houses are expected to be called late in the summer of early fall. The first stage of building calls for 1,416 housing units and four schools.

Staff Changes

Chartered banks announce the following staff changes:

Royal:

L. E. SOUTH, accountant, Sarnia, Ont., to be manager, Corunna, Ont.

W. G. ANDERSON, Portage Ave., Winnipeg, to be manager, Atikokan, Ont.

A. CAMPBELL, Vancouver, to be manager, Cassiar, B.C.

F. LOINAZ, Ciudad Trujillo, D.R., to be manager, Santiago de los Caballeros, D.R.

D. S. DARLING, accountant, Douglas St., Victoria, B.C., to be manager, 2909 West Broadway, Vancouver.

S. B. HUGHES, Medicine Hat, Alta., to be acting manager, Port Radium, N.W.T.

R. F. GULLIFORD, Tramways Terminal, Montreal, to be accountant, Wellington & Caroline, Ottawa.

E. O. PATTERSON, head office, to be accountant, St. Laurent (Montreal).

E. A. McDormand, Hastings & Homer, Vancouver, to be accountant, Douglas St., Victoria.

H. S. CORNWELL, accountant, Fort St., Victoria, to be accountant, Nanaimo, B.C.

H. J. ATKINSON, supervisor's dept., Winnipeg, to be accountant, Steinbach, Man.

D. D. THOMAS, Edmonton, Alta., to be accountant, Cardston, Alta.

W. L. LYSENG, Didsbury, Alta., to be accountant, Devon, Alta.

I. W. P. HICKMAN, Boissevain, Man., to be accountant, Atikokan, Ont.

D. J. ALLDRIFT, Penticton, B.C., to be accountant, Brighouse, B.C.

D. J. SWINTON, Barrie, Ont., to be accountant, Otterville, Ont.

J. L. RICHARD, St. Lawrence & St. Zotique, Montreal, to be accountant, Dalhousie, N.B.

H. W. A. POTTER, accountant, Otterville, Ont., to be accountant, Dundas & Wellington, London, Ont.

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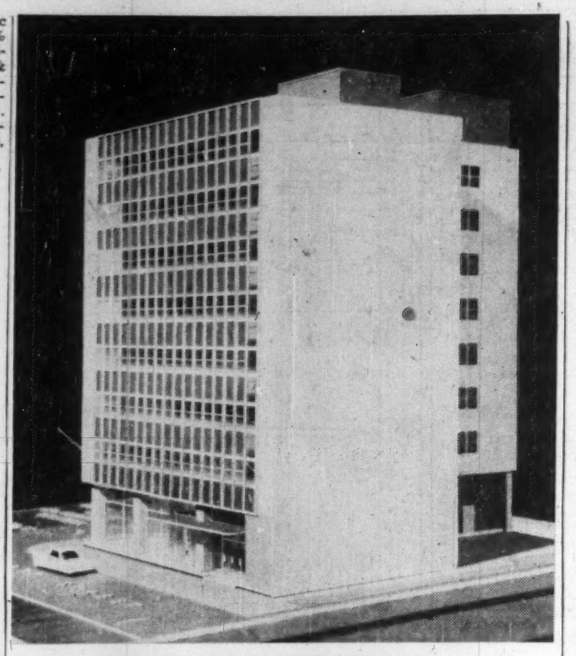


ST. LAWRENCE SEAWAY AUTHORITY will occupy this 7-story permanent headquarters at Cornwall, Ont. Construction will start shortly, after award of contract. Photo is of model, by architects Gordon S. Adamson & Associates, Toronto.

What's Under Way On 'Biggest Job'

OTTAWA (Staff)—By the early spring of 1959, Canada will have a 27-ft.-deep Seaway from Montreal to Lake Erie. Some $300 millions will have been spent on the combined navigation-power project.

To date, contracts for $64,197,000 have been let by the St. Lawrence Seaway Authority and the Ontario Hydro. Largest single contract awarded so far is the $13.5 million order for 16 generators for Ontario Hydro, being shared by Canadian General Electric and Canadian Westinghouse.

Ontario Hydro has so far awarded contracts worth $38,449,000, divided among 14 construction and electrical machinery companies. The St. Lawrence Seaway Authority has awarded contracts worth $25,748,000 among 12 construction and dredging firms. A grand total of 70 contracts is eventually expected to be awarded.

Ontario Hydro has already called further tenders for the construction of the Canadian half of the St. Lawrence River powerhouse, as well as several minor gear and road improvements.

The Seaway Authority has called for two contracts for the excavation of seven miles of Seaway channel from just above Montreal's Victoria Bridge to below Cote St. Catherine, on the South Shore. Seaway navigation work's biggest slice has so far gone for dredging, with four contracts worth nearly $14 millions having been awarded.

What We'll Spend

Here is a special Financial Post summary of how much money will be spent by Canada on the navigation part of the St. Lawrence waterway project:

—Building a new canal with two locks from Montreal Harbor (at tidewater) to Lake St. Louis. (Total cost about $122 millions.)

—Installation of special flight locks at the Beauharnois power canal. (Total cost $47 millions.)

—Dredging shoals away through Lake St. Francis. (Total cost $6 millions.)

—Building side canals and three locks with necessary channel excavations at Iroquois. (Total cost $14 millions.)

—Deepening the Welland Canal from 25 ft. to 27 ft. (Total cost $2 millions.)

Here is a list of the contracts already awarded by the Seaway Authority, showing name of contractor, amount of contract and work to be done:

Company	For	Amount
A. Janin & Co., Montreal	Water supply system for Longeuil	$60,000
Miron & Freres Ltd., Montreal	Excavation around Lachine Rapids	1,153,000
Canadian Dredge & Dock Co., Toronto	Dredging part of Lake St. Francis	4,698,000
Marine Industries Ltd., Sorel	Dredging Lancaster Bar	384,000
McNamara Construction Co., Toronto	Dredge approaches to Beauharnois Canal	682,000
Marine Industries Ltd., Sorel	Dredging Lake St. Louis Canal	8,219,000
McNamara Construction, Pigott Construction and Peacock & McQuigge	Joint contract for dyke between Jacques Cartier & Victoria Bridge in Montreal area	2,214,000
Pentagon Construction Co.	Canal and locks	6,470,000
Iroquois Construction Ltd.	at Iroquois	
Miron & Freres	Dyke construction to Montreal Harbor	1,768,000
	Total	$25,748,000

Here is a similar summary for the contracts so far awarded by Ontario Hydro:

Company	For	App. Amount
Cementation Co. of Canada Mannix-Raymond Limited	Project office bldg.	$32,000
	Two cofferdams, dewatering of powerhouse site	2,411,000
Canada Cement Company Steel Company of Canada Burlington Steel Co. Ltd.	Cement for powerhouse and associated construction; and one year's requirements of steel reinforcing bars for powerhouse	4,840,000
Canadian General Electric	8 generators (manufacture and installation)	13,500,000
Canadian Westinghouse Co.	8 generators (manufacture and installation)	
C. A. Pitts	Crushed rock, manufactured sand for concrete aggregate	2,486,000
English Electric Co.	Manufacture, installation of 16 turbines & governors	7,500,000
Canadian Westinghouse Co.	13 86,000 kva power transformers	1,250,000
Sir Robert McAlpine & Sons Ltd.	Part A, CNR relocation	
C. A. Pitts	Part B, " "	3,100,000
Iroquois Constructors Ltd.	Part C, " "	
Atlas Construction Co.	Cornwall dyke	3,330,000
Brown Boveri (Canada)	Powerhouse switchgear	345,000
	Total	$38,449,000

Hydro has awarded more than $38.5 millions indicated; it is above $40 millions, actually. Reason for the discrepancy is use of approximate figures for individual contract amounts. They add up to less than the total to latest date.

Industrial Growth

Humidifiers, Filters

Auto Flow Corp. of Detroit is establishing a branch plant in Windsor for the manufacture of warm air humidifiers and domestic oil tank filters. The Canadian subsidiary, located in a 5,000-sq.-ft. building, will use parts made in Canada. S. N. De Gruchy has been appointed general manager.

• • •

Linde Air Products

Building of a new plant for Linde Air Products Co. (formerly Dominion Oxygen Co.) has been completed at Fort William. The plant, to manufacture oxygen, acetylene, welding, cutting and flame-treating apparatus, silicones and molecular sieves, is scheduled for full production by late summer.

• • •

Television Tubes

Winchester Electronics Co. Ltd. has been established in Windsor for the manufacture of television tubes under license from R.C.A. The company has a one-story, 8,300-sq.-ft. plant for initial operations. Robert Hemsted has been appointed president.

• • •

McInnis Addition

C. H. McInnis Co. of Windsor has opened a 29,056-sq.-ft., two-story brick addition to its Windsor plant for extra manufacturing and office space. The company specializes in conveyors and materials handling equipment.

• • •

GSW Warehouse

Contract has been let for the construction of 46,000-sq.-ft. warehouse, office and showroom building for General Steel Wares Ltd. in Winnipeg. The warehouse will handle the company's household and plumbing products, appliances and home heating equipment. Completion is expected by December.

Staff Changes

Nova Scotia:

A. A. ACHESON, to be manager, Pape & Gowan, Toronto.

N. A. CHIN, to be accountant, Princess St., Kingston, Ja.

J. E. WHITE, to be accountant, Fort William, Ont.

MRS. E. H. BARR, to be assistant accountant, St. Catharines, Ont.

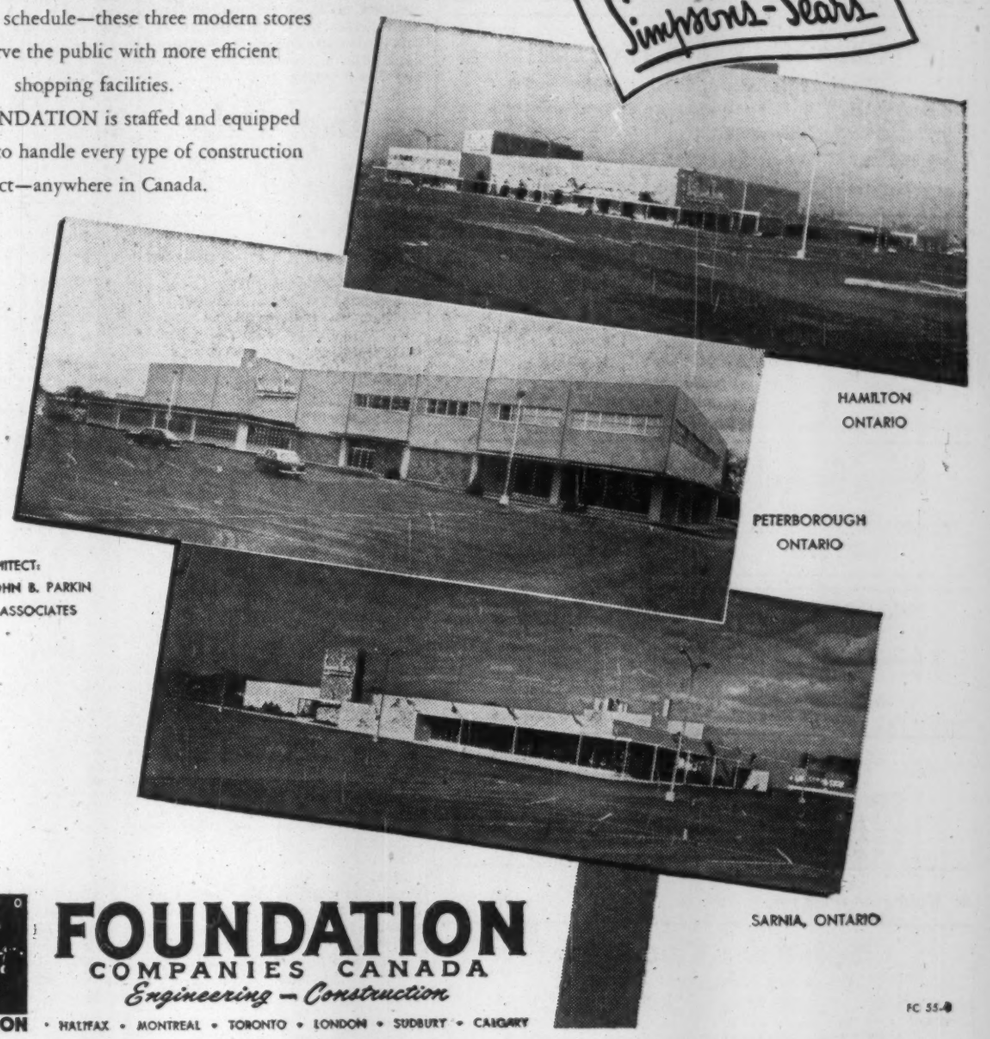
A. V. HENDERSON, to be assistant accountant, Forest Hill Village, Toronto.

Built for public service
by FOUNDATION for Simpsons-Sears Limited

—on schedule—these three modern stores now serve the public with more efficient shopping facilities.

FOUNDATION is staffed and equipped to handle every type of construction project—anywhere in Canada.

Simpsons-Sears



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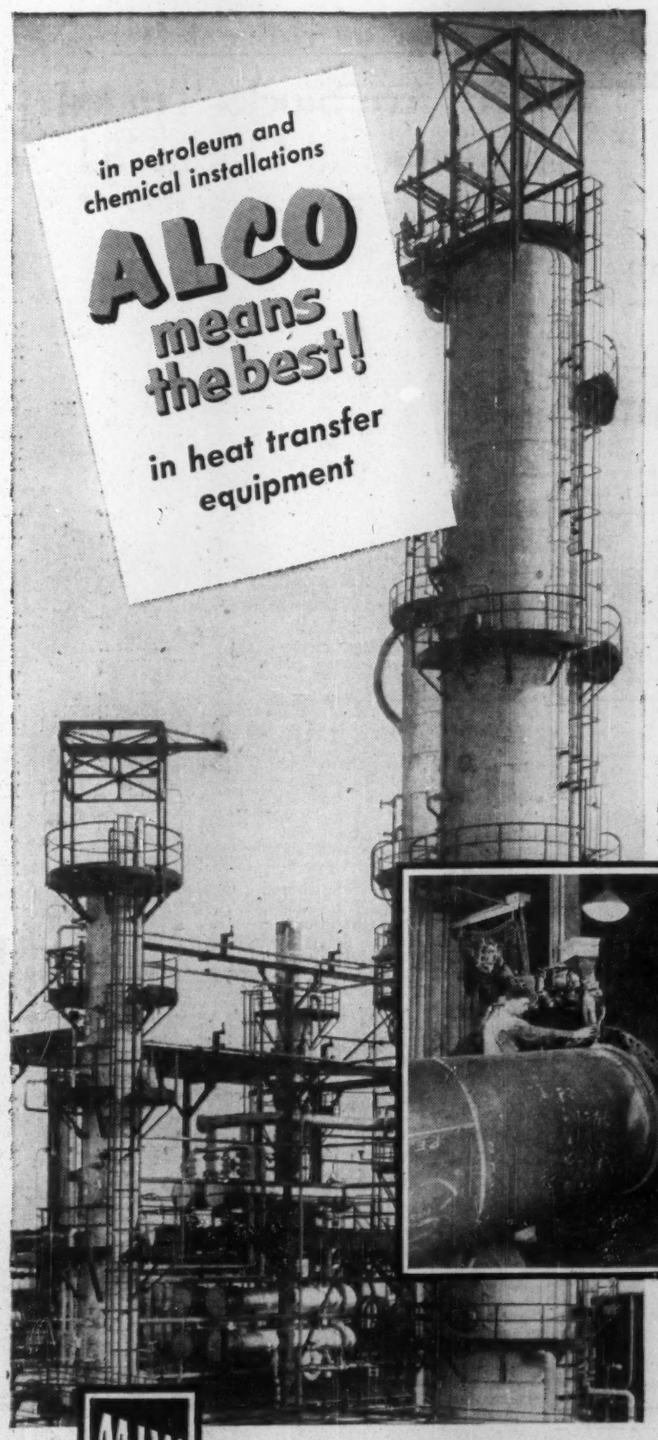
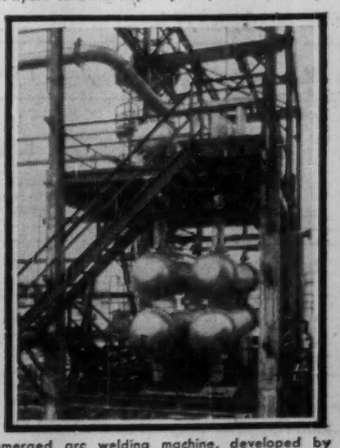


Years of experience building Alco heat exchangers qualify Montreal Locomotive to meet the strictest service requirements in heat transfer equipment.

Custom engineered to your specifications, Alco heat exchangers range in pressure from high vacuum to 3000 psi; in temperature, from minus 300°F to 1150°F. They are built to TEMA standards and to ASME or API-ASME codes.

Alco heat exchangers are fabricated of carbon steel, nonferrous alloys, stainless steel, stainless clad, nickel-clad or clad steels. For details call or write.

Left—Crude stilling unit at Montreal plant of McColl-Frontenac Oil Company, Ltd., equipped with MLW exchangers, produces wide range of hydro-carbons. Capacity: 24,000 bbls. a day.



Center—Submerged arc welding machine, developed by MLW, welds outside seam of heat exchanger shell. Welding head can handle weldments from 15 ins. to 48 ins. in diameter.

Right—Corrosion-resistant overhead vapor condensers at McColl-Frontenac plant cool and condense oil vapor and steam. Shells are 20% Monel-clad; tubes are 70-30 cupro-nickel.

MLW
Alco Products Division
MONTREAL LOCOMOTIVE WORKS LIMITED

Fire Loss Ratio Declines in Ontario

Losses Up 3.3% But Premiums Earned Climb 7.8% in '54

Ontario property owners paid $64,460,426 millions in fire insurance premiums last year. This was 1.5%, or about $1 million, lower than in 1953.

Premiums earned were 7.8% higher at $62.6 millions ($58 millions the previous year). Losses rose by 3.3% to $32.6 millions, although the ratio of net losses to net premiums earned declined for the second successive year, reaching 52.1% compared with 1953's 54.4%. This was somewhat higher than the comparable ratio of 50% for all of Canada.

Fire premiums written in Ontario last year, as in 1953, were 41.1% of the all-Canada total. Of the $64,460,426 total for 1954, joint stock companies wrote $50,640,224. Loss ratio for these companies dipped from 55.3% in 1953 to 52.1% in 1954.

Here are 1954 figures as compiled by the Ontario Department of Insurance:

FIRE PREMIUMS AND LOSSES IN ONTARIO, 1954
(Excluding Adjustment Expenses)

COMPANIES JOINT STOCK	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
Acadia	416,457	345,860	215,138	62.2
Adriatic Insurance Co.	101,524	43,215	62,218	143.9
Aetna Insurance	864,710	886,196	356,320	40.2
Alliance Assurance	427,426	456,588	180,716	39.5
Alpina Insurance	45,390	49,668	24,565	49.4
American Central	54,592	51,077	22,439	43.9
American Equitable	114,267	92,733	34,743	37.4
American Insurance	202,412	315,725	164,947	52.2
American National Fire Ins. Co.	82,054	40,451	23,671	58.5
American Surety Company of New York	32,031	36,478	23,167	63.5
Anglo-Canada	988,591	1,038,253	574,450	55.3
Anglo-Scottish	80,776	77,680	43,649	56.1
Atlas	294,913	307,195	153,812	50.0
Automobile Insurance	328	577	35	6.0
Baloise Fire Insurance Co.	101,963	96,154	63,654	66.2
Baltica Insurance Co.	140,252	148,288	67,864	45.7
Bankers & Shippers	78,560	69,056	35,410	51.2
Beaver	169,100	150,654	99,386	65.9
Bee	77,158	66,223	26,157	39.5
Boston Insurance Co.	125,713	117,806	73,326	62.2
British America	510,917	473,372	209,176	44.1
British Canadian	81,899	85,882	54,666	63.6
British Commonwealth Insurance	15,275	7,297	6,005	82.2
British Crown	156,447	159,016	98,483	61.9
British Empire	142,856	148,015	95,323	64.4
British & European	25,042	25,718	11,176	43.2
British General	61,691	63,681	27,440	43.0
British Law	39,817	47,366	15,825	33.4
British Northwestern	131,895	133,127	77,060	57.9
British Oak	142,728	131,162	123,159	93.9
British Traders	315,704	304,968	171,647	56.2
Buffalo Insurance Co.	11,986	5,285	12,979	248.0
Caledonian American	24,783	20,852	12,942	62.0
Caledonian Insurance	125,920	144,456	90,544	62.6
California Insurance	24,890	25,612	10,969	42.6
Camden	....	....	13	....
Canada Accident & Fire	137,411	138,232	62,432	45.1
Canada Security	108,844	121,767	61,596	50.5
Canadian Commerce	71,167	61,696	35,380	57.3
Canadian Fire	507,413	419,909	252,021	60.0
Canadian General	422,742	454,702	271,780	59.7
Canadian Home Assurance	131,550	114,107	79,890	70.0
Canadian Indemnity	325,359	295,187	158,493	53.6
Canadian Reinsurance Co.	1,060,396	542,949	326,014	60.0
Canadian Surety	190,130	163,844	87,350	53.3
Car & General	83,063	73,037	45,456	62.2
Casualty Co. of Canada	34,112	245,462	50,281	20.4
Century Insurance	258,254	277,951	158,793	57.1
Christiania General	180,532	171,142	90,833	53.0
Citadel Insurance	36,031	29,471	9,843	33.4
Citizens of New Jersey	6,076	12,456	6,343	50.9
Commercial Union Assurance	775,802	784,393	393,980	50.2
Connecticut Fire	204,094	201,154	100,455	49.9
Consolidated Fire & Casualty	323,163	295,425	144,652	48.9
Commonwealth Insurance Co.	10,261	9,201	734	7.9
Continental Casualty Co.	7,168	2,051	1,000	48.7
Continental Insurance	418,262	462,991	129,186	27.6
Contingency Insurance	49,109	20,941	5,074	23.9
Cornhill	86,235	82,429	44,308	53.7
Dominion of Canada General	92,542	906,182	135,462	14.9
Dominion Insurance Corp.	534,829	501,640	251,763	50.2
Eagle Fire	74,272	87,161	42,097	48.3
Eagle Star	554,497	566,059	310,661	54.9
Employers' Liability	778,469	679,776	346,389	50.9
English & American Insurance Co.	19,306	12,304	11,775	95.1
Ensign Insurance	142,869	107,365	69,975	65.1
Equitable Fire & Marine	40,819	40,229	20,091	49.7
Essex & Suffolk Equitable	30,690	31,462	16,913	53.7
Eureka-Security	114,652	94,463	53,849	57.0
Excess	69,347	60,729	26,037	42.8
Federal Fire	425,978	380,267	183,744	48.3
Federal Insurance	331,454	249,525	202,741	81.2
Federation Insurance	824,291	747,609	475,341	63.4
Fidelity-Phenix	144,314	183,416	54,019	29.4
Fire Association of Philadelphia	211,201	160,659	49,465	30.7
Fire Insurance of Canada	309,217	263,250	148,329	56.3
Firemen's Fund	268,407	170,850	91,225	53.3
Firemen's Insurance of Newark	326,132	322,562	154,683	47.9
General Accident of Canada	633,533	845,187	475,999	56.3
General Accident Fire & Life	324,048	281,612	163,109	57.9
General Security	162,105	174,743	75,406	43.1
Girard Insurance Co. of Philadelphia	25,588	27,435	5,981	21.5
Glens Falls	157,313	138,951	75,919	54.6
Globe Indemnity of Canada	263,680	265,426	114,339	43.0
Granite State Fire	27,751	37,763	23,347	61.8
Great American Insurance	831,022	840,611	455,940	54.2
Great Lakes Reinsurance Co.	85,778	52,637	31,014	58.9
Guarantee Co. of N.A.	939	170	.....	....
Guardian Assurance	357,010	356,391	164,524	46.1
Guardian Insurance	166,477	178,245	69,243	38.8
Guildhall	117,925	124,197	91,466	73.6
Halifax Insurance	419,980	385,614	244,499	63.4
Hand-in-Hand	134,636	136,828	51,165	37.3
Hanover	319,456	308,199	139,586	45.2
Hartford Fire	984,150	977,219	467,707	47.8
Hastings Fire & Accident	83,174	64,015	75,273	117.6
Helvetia Swiss Fire	41,604	41,359	36,849	89.3
Home Fire and Marine	1,132	4,895	2,328	47.9
Home Insurance	851,642	850,394	479,803	56.4
Hudson Bay	131,241	132,229	57,170	43.2
Imperial Guarantee & Accident	130,470	121,420	53,827	44.3
Imperial Insurance Office	188,461	171,177	102,193	59.7
Insurance of North America	1,877,072	1,799,783	1,381,100	76.7
Insurance Corporation of Ireland	29,416	27,743	14,095	50.5
Jersey Insurance Co. of New York	50,191	44,118	22,623	51.2
Law, Union & Rock	251,845	230,470	209,112	90.7
Legal & General	22,032	22,258	23,667	106.3
Licenses & General	23,412	20,398	13,417	66.0
Liverpool & London & Globe	614,549	640,474	241,983	37.7
Liverpool-Manitoba	131,241	131,758	57,170	43.3
London Assurance	431,826	470,897	209,943	44.5
London-Canada	147,900	152,482	86,283	56.5
London and County	26,507	22,419	4,266	19.0
London Guarantee & Accident	83,427	144,236	43,028	29.8
London & Lancashire Guarantee & Acc.	78,157	71,269	59,837	83.9
London & Lancashire Insurance	1,478,697	1,552,332	763,665	49.1
London & Provincial	100,962	99,056	59,681	60.2
London & Scottish	51,534	51,154	27,956	54.6
Mercantile Insurance	85,382	92,468	54,241	58.6
Mercantile & General of Canada	361,887	339,133	187,832	55.3
Mercantile & General-London	197,949	188,955	94,290	49.9
Merchants Fire of New York	146,748	137,529	59,341	43.1
Merchants Fire	231,271	230,405	121,419	52.7
Merchants & Manufacturers	179,375	131,480	25,000	19.0
Merchants Marine	117,441	114,066	47,854	41.9
Mercury Insurance	36,790	50,456	10,843	21.4
Michigan Fire & Marine	38,565	41,422	20,254	48.9
Monument Insurance	14,940	15,427	14,675	95.1
Motor Union	49,731	46,184	24,485	53.0
National-Ben Franklin	161,379	173,059	81,330	46.9
National Fire of Hartford	89,240	170,576	53,253	31.2
National Fire & Casualty	116,723	103,219	55,692	53.9
National Provincial	49,731	46,130	24,484	53.0
National Union Fire	88,174	86,534	43,150	49.8
New England Insurance	51,420	55,229	27,006	48.9
New Hampshire Fire	71,199	102,711	74,185	72.2
New India Assurance	3,958	1,409	5	.3
New York Fire	33,615	32,435	38,602	119.0
New York Underwriters	298,871	319,057	151,925	47.6
New Zealand Insurance	98,445	76,613	43,397	56.6
Niagara Fire	189,153	163,486	57,881	35.4
Nordisk Reinsurance	208,122	162,753	100,328	61.6
Norrland Insurance	174,204	84,610	46,564	55.0
North African Reinsurance	182,570	96,002	90,167	93.9
North British & Mercantile	483,467	539,823	251,122	46.5
North Empire	83,292	82,315	43,028	52.2
North River	198,552	207,079	91,267	44.0
North West Fire	49,997	50,392	21,939	43.5
Northern Assurance	377,918	375,124	205,006	54.6
Northwestern National	223,159	184,962	110,555	59.7
Norwich Union	893,881	898,167	449,069	50.0
Occidental Fire	220,529	188,618	85,436	45.3
Ocean Accident & Guarantee	190,620	162,772	82,263	50.5
Old Colony Insurance	14,425	5,533	1,627	29.4
Ontario Casualty Insurance	178,316	146,057	116,782	80.0
Orion Insurance	121,318	96,026	27,481	28.6
Pacific Coast Fire	80,567	77,448	42,136	54.4
Pacific Fire	89,471	78,744	40,328	51.2
Palatine	147,745	150,415	65,824	43.7
Patriotic	52,034	50,661	26,761	52.8
Pearl	446,815	460,000	199,623	43.4
Phenix Fire of Paris, France	22,273	39,772	18,318	46.0
Philadelphia Fire & Marine	125,281	126,958	80,051	63.0
Phoenix Assurance of London	1,042,912	1,002,772	537,909	53.6
Phoenix of Hartford	518,338	534,614	241,679	45.1
Pilot	465,316	411,149	183,895	44.7
Planet	59,660	62,594	27,160	43.3
Progressive Insurance	36,626	27,753	14,093	50.7
Providence Fire	77,944	76,116	54,568	71.6
Providence Washington	442,278	399,470	202,044	50.5
Provident Assurance	83,391	47,445	25,961	54.7
Provincial Insurance	112,039	110,288	63,774	57.8
Prudential Assurance	742,739	739,627	369,803	50.0
Quebec Fire	35,684	38,936	26,905	69.1
Queen City	52,717	53,418	28,040	52.4
Queensland Insurance	—11	—41	12,015	....
Railway Passengers	106,612	106,689	48,139	45.1
Reinsurance Corp. Ltd.	115,250	56,856	39,338	69.1
Reliance Insurance of Canada	145,781	143,689	71,753	49.9
Reliance of Philadelphia	42,793	30,816	10,518	34.1
Royal Exchange	458,384	428,311	173,644	40.5
Royal Insurance	1,263,572	1,292,773	578,247	44.7
Royal Scottish	68,712	68,203	37,274	54.6
Ruby General Insurance Co. Ltd.	......	......	16	....
St. Paul Fire & Marine	231,236	235,465	72,471	31.0
Scottish Canadian	118,214	114,710	77,078	67.1
Scottish Insurance	83,483	77,791	32,221	41.4
Scottish Metropolitan	120,247	119,357	65,229	54.6
Scottish Union & National	279,564	286,824	151,937	52.9
Sea	121,020	111,891	53,477	47.7
Security Insurance of New Haven	281,320	222,820	115,160	51.6
Security National	32,901	33,202	19,265	58.0
Simcoe Insurance Co.	12,811	10,857	6,300	58.0
Skandia Insurance	320,091	329,888	166,857	50.5
South British	132,434	129,821	82,715	63.7
Springfield Fire & Marine	562,134	576,032	264,030	45.8
Standard Insurance of N.Y.	18,975	22,344	9,828	43.9
Standard Insurance of N.Z.	22,913	11,209	9,007	80.3
State Assurance	49,731	46,165	24,485	53.0
State Farm Fire & Casualty	18,426	3,781	844	22.3
Sterling	12,833	12,963	6,189	47.7
Sun Insurance Office	703,734	651,213	446,859	68.6
Svea Nornan Insurance	29,881	24,999	14,277	57.1
Switzerland General	155,511	129,589	93,935	72.5
Toronto General	345,880	372,029	222,366	59.7
Traders General Insurance Co.	139,231	34,251	17,788	51.9
Transcontinental	103,504	137,443	61,981	45.1
Transportation Fire & Casualty	392	87	591	679.3

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
Travelers Fire	284,676	262,581	147,980	56.3
Union Assurance	232,868	235,858	104,250	44.2
Union Fire, Accident & General	56,832	62,072	33,704	54.3
Union Insurance of Canton	498,474	523,878	294,252	56.1
Union Marine & General	41,646	—54,565	21,515	....
Union Reinsurance	125,748	128,620	58,959	45.8
United National Indemnity	34,519	31,534	5,296	16.7
United Scottish	9,718	3,796	3,138	82.6
Universal Reinsurance	105,863	103,902	44,149	42.4
United States Fire	388,479	353,664	185,023	52.3
Unity Fire	21,901	18,690	6,888	36.8
Upper Canada Insurance	16,593	12,358	8,548	69.2
Victory Insurance Co. Ltd.	355,938	315,320	151,001	47.8
Wellington	413,307	387,779	173,920	44.8
Westchester Fire Insurance Co.	131,135	127,548	65,819	51.6
Western Assurance	1,181,686	1,132,383	551,785	48.7
World Auxiliary Insurance	4,334	3,347	1,146	34.2
World Fire & Marine	2,410	11,745	3,341	28.4
World Marine & General	68,712	68,203	37,274	54.6
Yorkshire	267,910	239,942	131,241	54.7
Zurich General Accident & Liability	141,794	122,453	83,353	68.0
UNLICENSED INSURERS				
Canadienne Nationale	48,484	46,802	25,053	53.5
Co-operative Insurance Society	—39	49	7	14.2
General Insurance Co. of America	1,788	1,917	.....	....
Metropolitan Fire Assurance	108,750	92,235	77,676	84.2
Newfoundland American Insurance	18,926	7,004	5,448	77.7
North Eastern	108,750	92,379	77,277	84.0
North Pacific Insurance Co.	87,834	42,612	24,521	57.5
North Star	18,025	59,966	52,769	88.0
Totals for 1954	50,640,224	49,451,382	25,741,124	52.1
Totals for 1953	51,446,062	45,461,939	25,159,937	55.3

FARMERS' MUTUALS†

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
Algoma	12,054	13,544	3,633	26.8
Amherst Island	1,418	1,125	302	26.8
Ayr	71,296	71,044	41,629	58.6
Bay of Quinte	113,134	111,662	85,501	76.6
Bertie and Willoughby	34,505	33,192	12,112	36.4
Blanshard	22,291	21,860	11,384	52.1
Blenheim, North	42,051	39,250	20,407	52.0
Brant	50,173	46,425	19,720	42.5
Canadian Millers'	43,062	42,063	10,615	25.2
Caradoc	22,208	22,040	8,690	39.4
Clinton	34,664	34,317	10,644	31.0
Culross	26,381	25,793	36,069	139.8
Dereham and West Oxford	25,437	26,357	10,484	39.8
Dorchester, North and South	39,264	41,213	27,305	66.3
Downie	21,026	21,562	13,060	60.6
Dufferin	88,482	86,857	55,669	64.1
Dumfries, North, and Waterloo, South	62,787	60,375	44,873	74.3
Dunwich	37,458	36,179	21,297	58.9
Easthope, South	77,088	78,345	36,514	46.6
Ekfrid	28,979	29,391	11,648	39.6
Elma	36,257	38,358	11,133	29.0
Eramosa	17,448	17,015	8,506	50.0
Erie	24,930	23,780	13,796	58.0
Farmers' Central	262,536	247,054	170,079	68.8
Farmers' Union	129,136	126,990	78,019	61.4
Formosa	60,478	58,192	50,536	86.8
Germania	49,710	51,724	48,406	93.6
Glengarry	56,798	49,663	29,583	59.6
Grand River	19,284	18,983	11,457	60.4
Grenville Patron	122,942	111,537	78,446	70.3
Grey and Bruce	34,447	36,608	32,146	87.8
Halton Union	50,279	52,368	38,459	73.4
Hamilton Township	106,525	99,421	73,433	73.9
Hay Township	43,885	42,573	39,587	93.0
Hopewell Creek	7,645	8,676	10,345	119.2
Howard	76,027	73,965	43,701	59.1
Howick	96,264	89,121	81,156	91.1
Kent & Essex	187,658	181,679	79,733	43.9
Lambton	114,489	110,153	73,289	66.5
Lanark County	161,981	160,024	81,512	50.9
Lennox and Addington	44,778	45,836	46,249	100.9
Lobo	19,028	18,051	15,796	87.5
London Township	27,977	26,688	18,498	69.3
McGillivray	9,858	9,280	10,291	110.9
McKillop	36,520	35,108	21,332	60.8
Maple Leaf	185,467	169,143	103,485	61.2
Nissouri	81,887	77,078	48,101	62.4
Norfolk	33,457	34,532	28,606	82.8
North Kent	60,799	57,437	25,450	44.3
Oneida	7,162	6,946	3,897	56.1
Ontario Threshermen's	19,559	20,941	6,803	32.5
Otter	89,728	84,455	32,585	38.6
Peel County	173,564	162,633	109,415	67.3
Peel and Maryborough	59,645	58,432	35,342	60.5
Prescott	23,703	21,725	13,778	63.4
Puslinch	10,146	10,675	6,096	57.1
Saltfleet and Binbrook	20,382	20,553	11,288	54.9
Southwold	22,558	21,079	3,206	15.2
Townsend	23,633	22,502	15,611	69.4
Usborne and Hibbert	61,730	61,728	29,143	47.2
Walpole	24,478	23,881	19,156	80.2
Waterloo, North	278,267	275,073	158,159	57.5
Wawanosh, West	56,997	57,670	47,247	81.9
Westminster	18,467	18,938	15,336	81.0
Williams, East	28,451	27,301	9,118	33.4
Yarmouth	29,686	25,730	16,182	62.9
Totals for 1954	3,960,404	3,810,012	2,385,048	62.6*
Totals for 1953	3,747,025	3,657,117	2,447,016	66.9

†In these companies, "Net Premiums Written" consists of cash payments or instalments thereof levied, reinsurance premiums received, and assessments levied, less rebates and returned premiums and reinsurance ceded premiums.

*Ratio of management expenses (including adjustment of losses) to net premiums earned—23.4%.

OTHER MUTUALS

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
American Manufacturers Mutual Insur.	236,267	191,678	76,471	39.9
Central Mutual Insurance Co.	324,703	294,724	183,655	62.3
Federated Mutual Implement & Hardw.	727,423	665,514	366,077	55.0
Liberty Mutual Fire	178,824	178,799	65,708	36.7
Liberty Mutual Insurance	20,565	22,357	.....	....
Mill Owners'	208,801	193,782	75,091	38.7
Pennsylvania Lumbermen's	29,146	20,833	5,657	27.1
Retail Lumbermen's Mutual	260	260	.....	....
State Farm Mutual	11,164	2,377	245	10.3
Totals for 1954	1,737,153	1,570,324	772,904	49.2
Totals for 1953	1,634,115	1,520,835	603,592	39.7

CASH MUTUALS

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
(Without Share Capital)				
Economical	1,282,103	1,127,238	602,045	53.4
Gore District	836,069	753,902	407,612	54.0
Perth	327,050	308,256	164,449	53.3
Portage la Prairie	43,098	47,776	20,900	43.7
Saskatchewan Mutual Fire	86,636	50,903	37,534	73.7
Waterloo	687,686	653,210	324,583	49.6
Wawanesa Mutual	797,209	790,949	454,332	57.4
Totals for 1954	4,059,851	3,732,234	2,011,455	53.9
Totals for 1953	3,865,342	3,677,221	1,549,691	42.1

CASH MUTUALS
(With Share Capital)

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
Canadian Mercantile	220,714	199,234	115,049	57.7
Commerce Mutual	225,254	206,134	114,092	55.3
Equitable Fire Insurance Co.	334,636	390,991	175,731	44.9
Missisquoi & Rouville	188,029	107,744	57,457	53.3
Stanstead & Sherbrooke	198,804	195,827	98,462	50.2
Totals for 1954	1,167,437	1,099,930	560,791	51.0
Totals for 1953	1,083,668	1,136,533	404,311	35.6

RECIPROCAL EXCHANGES

COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Earned %
Affiliated Underwriters	94,435	80,652	170,192	211.0
American Exchange Underwriters	22,663	22,119	5,854	26.4
Canadian Reciprocal Underwriters	14,889	13,950	858	6.1
Canners Exchange Subscribers	87,716	95,975	7,676	8.0
Fireproof Sprinklered	10,078	9,884	2,602	26.3
Individual Underwriters	37,773	36,868	9,751	26.4
Lumbermen's Underwriting Alliance	109,633	116,314	4,671	4.0
Metropolitan Inter-Insurers	22,663	22,123	5,854	26.4
New York Reciprocal Underwriters	32,736	31,953	8,454	26.4
Retail Lumbermen's Inter-Insurance	35,325	35,290	.....	....
Underwriters Exchange	962	3,722	4,284	115.1
Warner Reciprocal Insurers	8,762	12,559	919	7.3
Totals for 1954	477,635	481,409	221,115	45.9
Totals for 1953	573,087	489,933	81,375	16.6

NON-MARINE UNDERWRITERS AT LLOYD'S

Totals for 1954	1,470,227	1,422,982	580,694	40.8
Totals for 1953	1,536,188	1,130,640	543,457	48.1

ASSOCIATED NEW ENGLAND FACTORY MUTUALS

	Net Prem. Depos. Written $	Net Prem. Depos. Earned $	Net Losses Incurred $	Ratio Net Losses Inc. to Net Prem. Depos. Earned %
Arkwright Mutual	93,013	87,744	18,193	20.7
Blackstone Mutual	155,810	176,695	62,430	35.3
Boston Manufacturers'	106,718	139,625	37,216	26.6
Firemen's Mutual	174,789	168,110	59,287	35.3
Industrial Mutual	27,190	59,494	14,254	24.0
Manufacturers' Mutual	214,337	269,983	121,010	44.8
Philadelphia Manufacturers'	69,983	47,807	12,929	27.0
Protection Mutual	105,655	83,942	8,564	10.2
Totals for 1954	947,495	1,033,400	333,883	32.3
Totals for 1953	1,559,927	972,477	771,212	79.3

RECAPITULATION

ALL COMPANIES	Net Prem. Written $	Net Prem. Earned $	Net Losses Incurred $	Ratio Net Losses to Net Prem. Earned %
Grand total, 1954	64,460,426	62,601,673	32,607,014	52.1
Grand total, 1953	65,445,414	58,046,695	31,560,591	54.4

Seaway's Sticky Lake Level Problem Nears Settlement

OTTAWA (Staff) — One of the most controversial problems involving effects of the St. Lawrence Seaway now seems to be well on the way to a mutually satisfactory settlement.

The outstanding issue — the question of how the International Rapids Section power developments will affect Lake Ontario water levels — has been the subject of bitter haggling, especially between the Canadian Government and lake-front property owners around Rochester, N.Y.

Proposals, now understood to be before the New York State, Ontario and Quebec authorities hold the promise of controlling future Lake levels to minimize lakeshore property damages.

Recommendations drawn up by the International Joint Commission are understood to provide for controlling the level of Lake Ontario between a maximum of 248 ft. down to a 244 ft. minimum. Some of the shore property owners have advocated establishing the range between 247 ft. and 243 ft.

While putting into effect the current lake levels recommendations will require some minor adjustments in construction plans for the deep waterway, the property owners' plan would have meant a major deepening of the proposed Seaway and almost certain delay in its opening, as well as a major added expense.

What Problem Is

The problem arises from the fact that the joint U.S.-Canada power plant in the International Rapids Section forms a bottleneck using the Great Lakes for its reservoir. The proposed Iroquois Dam will slow the river's velocity, as well as concentrating its flow. Net result will be a considerably enlarged water discharge capacity. It will not be used below the Rapids and must therefore be used with great care.

While it takes 80,000 cu. ft. of water per second flowing into Lake Ontario a month, to raise its level by one foot, Lake St. Louis, which lies between Montreal and the power dam, can be raised one ft. by the sudden added inflow of 40,000 cu. ft. of water in a day.

Because flow regulation will include discharge of extra water into Lake St. Louis, Quebec Province is a major factor in the current Lake Ontario level negotiations.

If, as the I.J.C. engineers propose, the Lake Ontario level can be maintained between about 244 ft.-248 ft. completion of the Seaway would mean a significant improvement over nature, whose cyclical fluctuations now range over six ft. six in.

In effect, the proposed regulation will crop off most if not all of 248 ft.-249 ft. and 244 ft.-243 ft. extremes which nature now allows. Authorities point out that the 243-ft. level advocated by some lakeshore property owners is unrealistic. When the level has been this low in the past, water intakes and sewers have been left hanging in the air.

Some Tricky Months

Under the present plan, it's hoped to allow levels higher than the average state of nature only 10% of the time. The months in which most damage takes place are March, April, November and December. Lake St. Louis is likely to present the trickiest problem, because at break-up time the Ottawa River flows in uncontrolled, posing a serious flood danger.

Great Lakes level fluctuations depend on volume of water in the lakes, which in turn depend on amount of rainfall, snow water content, rate of evaporation, seepage and tilting of the lake surfaces due to wind and differential barometric pressures.

Lake Ontario is the smallest of the Lakes, but is very deep, reaching down to 778 ft. — some 525 ft. below sea level. Its highest level is usually reached in June; its lowest in January.

There are also short periods of wind and barometric fluctuation which have temporarily raised levels by as much as 10 ft.

New Canning Plant Operates In Alta.

LETHBRIDGE, Alta. — A new $500,000 vegetable cannery established at nearby Taber by the Cornwall Canning Co., a Safeway subsidiary, now is in operation.

The ultra-modern plant, which is the initial step in a multi-million dollar development program mapped out for Taber by Cornwall Canning, went into production recently by starting to process Lima beans in tomato sauce and began packing pork-and-beans.

Miscellaneous, small production items will keep the large plant busy until the processing of green cannery peas starts early in July. Then the cannery will handle, progressively, beans, mixed vegetables, carrot, red table beets, corn, pumpkin and other cannery crops.

It replaces a smaller plant that was constructed about 20 years ago and is located in a corner of a 40-acre site that is intended for several vegetable canning plants and a number of quick-freeze units. At present the only vegetable quick-freezing plant in Alberta is that operated at Lethbridge by Broder Canning Co.

ANNOUNCEMENT

ARTHUR J. DAWES

Mr. Harry S. Pearl, president of Enterprise Sales & Distributors Ltd., announces the appointment of Arthur J. Dawes as General Manager of the firm.

Mr. Dawes' association with the china and gift industry includes both sales and purchasing experience in Canada and the United States. He was previously associated with Cassidy's Ltd., and prior to that with a Minneapolis specialty shop specializing in china, glass and household furniture. During the war he served as a pilot instructor with the R.C.A.F.

SILLERY, QUE. City has sold $300,000 3% bonds due 1956-75 to McNeil, Mantha, Inc. and the Banque Provinciale du Canada at net cost of 3.807%. Net funded debt $2,917,080 at Dec. 31, 1954, population 12,000.

FIRST IN TRAVEL COMFORT-HANDLING EASE-SMARTNESS-*YET COSTS LEAST TO BUY AND RUN!*

Think of it—you pay Canada's lowest price when you buy a Rambler. You get easiest handling ... most miles a gallon ... the best ride in its field—and higher resale value, according to figures published by a leading business magazine. Be smart ... see, drive—buy a Rambler.

AT YOUR Nash DEALER
THE NEW IDEA 1955
Rambler

See your local Nash dealer

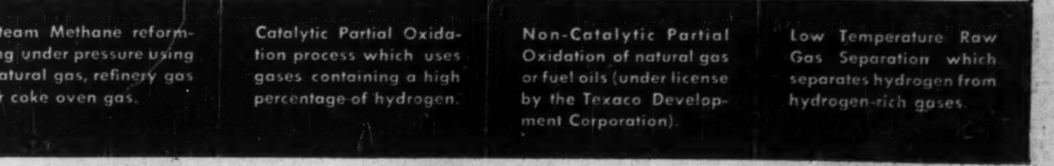
Hey Folks! Tune in Disneyland on CBC-TV. See TV listings for Time and Channels
©Walt Disney Productions

44-8

Who are the people to see about

Ammonia Plants?

Canadian Kellogg —WHO OFFER FOUR BASIC PLANT TYPES



Steam Methane reforming under pressure using natural gas, refinery gas or coke oven gas.

Catalytic Partial Oxidation process which uses gases containing a high percentage of hydrogen.

Non-Catalytic Partial Oxidation of natural gas or fuel oils (under license by the Texaco Development Corporation).

Low Temperature Raw Gas Separation which separates hydrogen from hydrogen-rich gases.

These are a few of the companies with which Canadian Kellogg has worked—

Imperial Oil Limited
Canadian General Electric Co. Ltd.
Canadian Oil Companies Limited
McColl-Frontenac Oil Company Limited
British American Oil Company Ltd.
Consolidated Paper Company Limited

Each of the four hydrogen generation methods offered by Canadian Kellogg is designed for highly efficient operation with the raw materials available in various parts of Canada. In Western and Central Canada the Steam Methane process can take advantage of the abundantly available natural gas and refinery gases. The third process described (above) offers great promise in Eastern Canada because it can use fuel oils, or utilize natural gases which will eventually be available. Processes two and four will be economically attractive in many parts of Canada when more plentiful supplies of hydrogen-rich gas become available as a by-product of increased refining capacities. The Kellogg processes are described in detail in a booklet that is available on request.

THE Canadian Kellogg COMPANY LIMITED, TORONTO • EDMONTON

THE WEEK'S QUOTATIONS

Quotations here listed are the official exchange prices for listed stocks including curb market quotations. For unlisted stocks, quotations by unlisted dealers are given. The Financial Post cannot accept any responsibility for these quotations.

Montreal and Toronto Winnipeg, Calgary and Vancouver

WEEK ENDING JUNE 17, 1955

Range 1955 High	Low	Div. Y'ld R'te	%	Company	Sales	Last June 17, 1955 10	H	L	Close
35	26	1.20	3.5	Abitibi	17079	34	35	34	34½
27	23¼	1.12½	4.2	Do. 4½% pref.	1230	26½	27	26¼	26½
13	8½	.50	4.2	Acadia Atlan.	6305	11	13	11	12
106	103½	5.00	4.8	Do. 5% pref.	30	104	104	104	104
25	22½	1.20	5.0	Do. (A)	830	25½	24	23½	24
8¼	7	.40	5.3	Agnew Surp.	550	7¼	7¾	7½	7½
19	9½	.55	5.9	Do. pref.	201	9½	9¼	9¼	9¼
2.65	1.60			Albt. Dist.	22730	2.40	2.50	2.15	2.40
2.15	1.50			Do. V.T.	5700	1.90	1.95	1.80	1.85
77¾	69			Algoma Steel	11191	69	77½	68	76¼
27¼	26	1.00	3.7	Alum. of Can. P	450	26¾	27¼	26¼	27
108½	106	5.25	4.9	Do. 2nd pref.	250	107	107¾	106½	107¼
106½	69¼	2.20		Aluminium	8593	101½	103	100½	101
44½	36½	2.00	4.5	Ang. Cdn. Pulp	1540	45	45	44	44
56½	53	2.80	5.0	Do. pref.	571	54½	55¼	54½	55¼
53	47	2.25	4.3	Ang. Can. Tel. p	250	51	52	50	52
13½	10½	.60	4.6	Ang. Nfld.	15946	13	13¼	12½	13
26	21¾	1.20	5.0	Anthes Imp.	155	24¼	24½	24	24
1.25	.85			Arcan Corp.	1925	.97	.97	.90	.92
26	20½	1.60		Argus	7895	24	24¾	23½	24½
59	53	2.40	4.2	Do. 2nd pref. A	1290	57	58	56½	57¼
44¼	32½	1.00 + *.25		Asbestos	17042	40¼	44¼	40¼	44
13	12½	.60	4.8	Ashdown Hd. A	10	12½	12½	12½	12½
15¼	13	1.48½		Ashdown Hd. B	75	14½	14½	14½	14½
100	99½	4.00 + 12.00		Assoc T&TA p	25	99½	100	100	100
10½	13½	•		Atlas Steels	5322	18¼	18¾	18	18
11	8¼	.60 + *.10		Auto Electric	420	9	9¼	9	9
40¾	36½	1.00 + *.20		Bk. Can. Nat.	900	38½	39	38½	39
48¼	41¾	2.20 + *.20		Bk. Montreal	5475	45¾	45¾	44¼	45
57¼	52½	1.80 + 1.20		Bk. N. Scotia	1727	56¼	56¾	55½	55½
16	7			Barcelona	250	12½	12	11½	12
63¼	58½	3.00	4.7	Bathurst Pr. A	845	62½	63½	62½	63¼
53	38	1.75		Do. (B)	1390	48	49¼	48	48
8¾	7	.40	5.6	Beatty Bros.	1075	7¾	7¾	7¼	7¼
25	18			Beaver Lumber	845	22¼	23¼	22	23
22¼	21¼	1.00	4.4	Do. (A)	200	22	22¼	22¼	22¼
9¼	6	•		Belding Cort.	225	6	6¼	6¼	6¼
50	45	2.00	4.0	Bell Telephone	18622	49¾	49¾	49	49¼
42¾	34½	2.50	6.3	Blue Ribbon, pf.	34	40	40	40	40
18	17	1.00	5.7	Brant, Cord. A.	100	17½	17½	17½	17¾
9	7	1.25		Do. (B)	100	8¼	9	9	9
7	5	.60 + stk		Brazilian Tr.	52483	7¼	7¾	7¼	7¾
100	98	6.00	6.1	Do. pref.	5	98½	98	98	98
49	47	2.90	6.1	Bridge & Tank p	45	48½	48½	47½	47½
2.50	1.10			Do. Warr.	475	2.40	2.50	2.25	2.40
17	9.11			Bright, T. G.	175	15	15	15	15
24½	21½	1.00 + *.20		Br. Am. Bk. N'ts	220	24¼	24¼	24	24¼
29¼	25¼	.85	2.8	Brit. Amer. Oil	23663	28¾	29¼	28	29¼
97	92	4.00	4.2	B.C. Elec. 4% pf.	176	96	96	94	96
106	103	4.75	4.5	Do. 4½% pref.	342	105	105¼	104½	104½
54¼	52	2.50	4.8	Do. 5% pref.	620	54	54	53½	52½
54¼	50½	2.25	4.3	Do. 4½% pref.	1695	52½	53½	52½	52½
13	8¼	.40	3.0	B.C. Forest	24725	12¼	13½	12½	13½
18	16	.75	4.3	B.C. Packers A.	25	17¼	17¼	17¼	17¼
15	12	1.25		Do. (B)	1015	14¾	15	14¾	14¾
32	24½	1.60		B.C. Power	5982	31½	33	32	32½
50¼	43½	2.00		B.C. Tele.	1933	50	50¼	49¼	49¾
.85	.70			B.C. Turf	3000	.80	.80	.80	.80
17¾	14½			Brown Co.	57981	17	18	16¾	18
118	105	5.00		Do. 1st pref.	1112	117	117½	114	114
12½	11	1.30		Bruck S. Mills	50	12	12	12	12
4¼	4			Bruck Mills (B)	100	4¼	4¼	4¼	4¼
48½	42¼	1.80	4.0	Building Prod.	3450	45	45¼	45	45
42¾	34½	2.50	6.3	Burlington Steel	360	27½	27½	27	27½
85	65	2.00 + 2.50		Burns & Co. A.	207	77	77	77	77
60	47	2.00 + 2.50		Do. (B)	25	54	54	54	54
62	52	.60	5.1	Bstrad D.D. A	1530	81	81	81	81
25	20	1.50	6.0	Caldwell L. 1 p	120	20	25	21½	25
108	105	5.00	4.6	Calgary Pr 5% p	80	106	108	105	109
4	2½	.10	3.1	Canada Bread	1005	3¼	3¼	3¼	3¼
56	50½	2.50	4.5	Do. pref. B	10	56	56	56	56
43½	37½	.80		Can. Cement n.	12765	38¼	40¼	38¼	40¼
32¾	30	1.30	4.1	Do. pref.	510	31½	31½	30¾	31
12	9	1.20		Can. Cr. Stone	1355	10¼	11	10	10½
22¾	20¼	1.00	4.4	C. & D. Sugar	6570	22	22¼	21¼	22¼
15¼	13½	1.60		Can. Flour B.	1040	14	14	13½	13½
18	16½	.60 + ••4.00		Can. Foils A.	200	16½	16½	16½	16½
28¼	24	1.50	6.0	Can. Forg. A.	120	24½	26	25	25
28½	22½	1.20	4.2	Can. Iron	4120	26	28¼	27¼	28
200	147	11.75		Can. Life	25	170	170	170	170
9¾	8	.50		Can. Machine	5580	9	9	8½	9
81	68	2.00 + 1.50		Can. Malting	140	78	77	75	76
14½	12½	.60	4.5	Can. Nor. Pr.	354	13	13¼	12½	12½
40½	37½	1.50	3.8	Can. Packers A	100	39½	39½	39½	39½
36½	33	1.50	4.3	Do. (B)	655	35¼	35¼	34½	35
95	83½	2.60 + 1.40		Can. Perman.	195	88	88	86	86
30	20	1.50		Can. Steamships	490	27	27	27¼	27¾
14	12½	.60	4.6	Do. pref.	1325	13	13¾	13¼	13¼
75	65	3.00	4.5	C. W. Cable B.	175	68	69¾	66¼	67
9	8	•		Cdn. Bakeries	129	8½	9½	17	17½
44	39	1.20	2.8	Cdn. Bk. Com.	5366	41¾	42¾	41¾	42¾
31	28	1.25	4.2	Cdn. Breweries	13330	29¾	29¾	28¼	29¾
31¼	29¾			Do. pref.	2362	30¾	31	30¾	30¾
32	28	1.25 + *.50		Cdn. Bronze	470	30¼	32	31¼	32
38½	29½	2.00	5.2	Cdn. Canners	2305	38	38¼	37	38¼
29	19¼	.80 + *.20		Can. Car & F'y	7325	28½	28¾	28¼	28½
29	21	1.00	3.4	Do. pref. A	3165	29	29	28¾	29
23	21	1.00		Cdn. Celanese	5011	23	24½	22	22½
37½	32½	1.75	4.9	Do. pref. $1.75	860	35¾	36¼	35¼	36
12¼	8½			Cdn. Chem.	5750	11¼	11¾	11	11½
12.50	8.60	•		Cdn. Collieries	29100	11½	12¾	11¼	12¼
21	14	•		Cdn. Cottons	100	13	15	15	13
11	8	•		Do. pref.	235	7½	12	8	12
26	21	1.25 + *.50		Cdn. Dredge	6370	22	22½	21½	22
23¼	15½	1.25		Cdn. Fairb.	250	21¼	23	20½	23
126	125	6.00	4.8	Do. pref.	25	126	125¾	125¼	125¾
4.10	1.75	•		Cdn. Food Prod.	50	3¼	3¾	3¼	3¼
7¼	6			Cdn. Gen. Elec.	150	6¼	7	6¼	6¾
33¼	30	1.10 + 1.18		Cdn. G. Inv.	570	32	32¾	32	32
9	7¾			Cdn. Hydro Card	2282	7¾	8	7¾	8
24	19¼	1.35		Cdn Indust. ('54)	10071	21¼	23¼	21¼	23¼
85	70	12.00		Cdn. Ingersoll R	20	75	117	117	117
85	70	1.00		Cdn. Int. I. Tr.	30	15	117	117	117
10	9½	.50	5.2	Do. pref.	10	95	95½	95½	95½
20¼	18	•		Cdn. Locomo.	2929	28	30¼	27¾	29¾
7¾	6	1.06		Cdn. Marconi	4560	6¼	6¼	6	6¼
25	17	.60	2.4	Can. Oil	7373	22	25	21¼	24½
106	105	5.00	4.7	Do. 5% pref.	135	105½	105½	104½	105¼
177	167½	8.00	4.7	Do. 8% pref.	10	171	171	171	171
10¾	3			Do. Warr.	8850	8¼	10¼	8¼	10¼
35	28	11.50		Cdn. Pacific	39995	34	35	34	35
25¼	17¾			Cdn. Petrofina p	6431	23¾	24¾	23¾	24¾
9	6			Cdn. Pr & P Sec	1900	8	8	8	8
1.00	.75	•		Cdn. Propane	2300	98	.98	.95	.98
7	5	•		Cdn. Silk A	130	6	5	5	5
21	20¼	1.00		Cdn. Tire, pref.	120	20¾	21	21	21
106½	102	5.00	4.8	Cdn. Utilities p	3	103¾	105	105	105
47¼	29¾	1.50	4.2	Cdn. Vickers p	4920	35	37	33¼	36
13	9½	.25		C. Wallpaper B	625	13	13	12	13
70	55¼	2.00	3.6	C. Westinghouse	149	57	561	55¾	56
19¼	18¾	.80	4.2	Cdn. West Gas p	473	19½	19½	19	19½
5¼	4¼	* .11 + .04		Capital Estates	940	5.30	5.15	5.10	5.13
29	25	.50 + 1.10		Catelli Food A	300	29	29	29	29
38½	36	1.00 + 1.10		Do. (B)	75	38½	37¾	37¼	37½
17	16¼	1.50 + *.30		Cent. C. Invest.	150	22¼	27	27	27
4¼	4	*.25		Cent. Nor. Air A	100	4¼	4¼	4¼	4¼
53	47	1.20 + *.65		Chart. Trust	150	50	50	50	50
16	14½	1.60		Chateau Gal	345	16	16¼	16	16
3.60	3.45	*		Claude Neon B.	1300	3.55	3.45	3.45	3.45
81	72½			Cockshutt Farm	7310	74	74	71	71
16½	15	1.50 + *.20		Coghlin, B. J.	614	16	15¾	15¼	15¾
10¼	9½			Comb. Enter.	2580	10	10¼	9½	10
11	8½	1.50		Conduits Nat.	470	11	11	10¼	10¾
225	143	7.50		Consol. Life	80	190	205	200	205
12¾	7	1.50		Cons. Bakeries	582	11¼	11¼	11	11¼
1.10	.75			Cons. Div. Sec. A	281	.80	1.10	1.10	1.10
41	34¼	2.25 + .25		Cons. Paper n.	22672	39	41	39½	40¼
39	29	.80 + 1.75		Cons. Smelters	32844	37¾	39¼	37¼	39
10¼	7	•		Cons. Textiles	600	7	7¼	7	7
23¼	20	.80	3.6	Consumers' Gas	4475	22½	23	22¼	23¼
20	18½	1.50	5.4	Consum. Glass	1365	27¾	28	27¼	28
18¾	16½	1.50		Corbys A	4115	18¼	18¾	18¼	18¾
17¼	16	1.30		Do. (B)	3130	17	17¼	16½	17¼
13	11	.70	5.7	Cosmos Imp.	1005	12½	12½	11¾	12½
1¾	1	•		Craig Bit	1385	4¾	4¾	4¼	4¾
18	16	.60	3.3	Crain, R. L.	50	18	18	18	18
38	34			Cres. Cream, pf.	1	35	36	36	36
48	44½	2.60	4.3	Crown Cork	50	45¼	46¼	46¼	46¾
23	17½	.60	2.9	Crown Trust	820	19¼	20¼	20¼	20½
79¾	54	+2.40		Crown Zeller	1567	76½	79¼	77	79¼
139	105½	4.00	3.0	Crow's N. Coal	85	129	135	129	135
51	50	3.00	6.0	David & Fre. A	16	51	51	50	50
11¼	8	•		Davis Leather A	685	11	11¼	11	11¼
3¼	3			Do. (B)	300	3.50	3.05	3.05	3.05
40½	30	1.20 + *.50		Distill-Seagram	17538	38¼	39¾	38¼	39¼
22½	18¼	.40 + 1.30		Dom. Bridge	14800	20¼	22¼	20	22
10¾	7			Dom. Coal, pref.	490	7¼	7¼	7¼	7¼
118	111	.80	6.4	Dom. Corset	73	13	13	12½	12½
6	6			Dom. Dairies	3	6½	17	17	17
4¼	3¾			Dom. Electro	739	3¾	4¼	4	4¼
29½	23¼	.60 + 2.40		Dom. Engineer	1265	28	29½	27¾	29
23¾	20¼	2.60	2.4	Dom. Foundry	10399	23¼	24¼	23¼	24¼
105	102	4.50	4.3	Do. 4½% pref.	355	104	104½	104	104½
39¾	30	1.80 + 1.62½		Dom. Glass	670	36	38	35	35
17¼	17¼	.70	4.0	Do. pref.	25	17¼	17¼	17¼	17¼
19¼	13	+ *.50		Dom. Magnes.	14160	17¼	19¼	17¼	18½
38	33	1.60 + *.40		Dom. Oilcloth	1390	34¼	38	33	38
25¾	18	1.25 + *.25		Dom. Scot. Inv.	175	23	25¼	25¼	25¼
90	80	4.00 + *1.00		Dom. Square	100	90	90	90	90
18¼	11	1.00	5.8	Dom. St. & C.	13255	17	17	17	17
39¼	28¼	1.00	2.6	Dom. Stores	4205	36	39½	36½	38½
13¼	9¼	.40	3.0	Dom. Tar & Ch.	14295	13½	13¾	13¼	13¾
24	21¼	1.00	4.3	Do. pref.	1120	23¼	23¼	23	23
8¾	7			Dom. Textile	8453	7¾	7¾	7¼	7¼
84	74	7.00	4.9	Do. pref.	13	142	142	142	142
144	140			Dom. Woollens	100	2¼	2¼	2¼	2¼
27	21	1.20	+ 1.20	Donohue Bros.	720	34¼	35	34	34¼
28¼	25			Dow Brew.	1015	28¼	28¾	27¼	27¾
30	24½	1.30		Dt. Pont of Can.	5929	27¼	27¾	27¼	28¼
100	97½	3.75	+ 3.8	Do. pref.	77	99	99	97¼	98
31	30			East Koot. Pr.	200	31	31	31	31
60	50			Do. pref.	1	50	60	60	60
51	31			East Steel	2190	4.50	5.25	4.55	5.25
23	18	.20 + 1.30		Easy Washing	25	18	123	123	123
38	29	1.00 + 1.50		Economic Inv.	160	35	36	36	36
21¼	13	1.00	1.7	Eddy Paper	1855	57¼	60	57½	58
16	11¾			Electrolux	130	15¼	15¾	15¼	15¾
7	6	.40	6.7	Enam. & Heat.	240	6	6	6	6
44	39	1.20 + .10		Equitable Life	21	41	41	41	41
23½	22	1.75	4.9	Estabrooks pf.	35	22½	22	22	22
29	24½	1.50 + *.10		Fam. Players	7990	25¼	26½	25	25¾
29	25	•1.50		Fanny Farmer	825	27¼	28	26½	27
31	29	11.00		Federal Grain	585	37¼	41	38	41
31	29	1.40	4.6	Do. pref.	605	30	30½	30¼	30¼
4	2¾			Fibre Products	100	4	4	4	4
9	7¾	1.10 + stk		Fisher B. B Exts	50	7	7	7	7
2.95	1.75			Fleet Mfg.	64880	2.30	2.60	2.20	2.60
127	100	12.50 + *1.25		Ford Motor A.	2711	121	126	122	125
60	44	11.50		Do. Pr. Secs.	165	44	50	48	50
21¼	17¼	1.57½ + *.90		Canadian Co.	11046	24½	27¼	24¼	27¼
34¾	23	1.00 + 1.20		Do. (A)	6450	33¼	34	33¼	34
97	93	4.50	4.7	Freiman, pref.	50	97	95	95	95
34¾	26½	1.20	3.6	Gatineau Pwr.	6294	31	33¼	30¾	33¼
12¾	11¾	1.00	4.4	Do. pref. 5%	50	112	113	113	113
115	111½	5.50	4.8	Do. 5½% pref.	275	111½	113	113	113
2¾	2	.20	2.1	Gen. Bakeries	2900	2¼	2¼	2¼	2¼
12¾	8	12.65 + stk		Gen. Dynamics	8583	60½	65	60	61¼
89	72	4.00		Gen. Motors	1268	98½	102¼	98½	102¼
45	40	stk		Gen. Products A	175	43	43	43	43
11	9	1.20		Gen. St. Wares	629	9¾	9¾	9¼	9¾
105¼	101	5.00	4.9	Do. pref.	60	102	102½	102	102½
157	130	4.00 + *2.00		Goodyear Tires	75	150	155	151	155
37½	32¼	2.00	3.8	Do. pref.	30	53	53	53	53
8¾	5¾	1.50	7.3	Gord. MacKay A	155	6¼	7	6¼	6¼
7	6	1.25		Do. (B)	10	7	7	7	7
6¼	5	1.00	4.1	Grafton A	100	11¾	16¼	16¼	16¼
18	16	1.60	3.7	Gt. Lakes Paper	11835	43¼	45¾	43	43
49¾	46			Gt. North Gas.	600	61	62	61	61
74	51			Do. pref.	200	46¼	46	45¾	46
45	45½	2.50	5.4	Do. pref.	1290	3.75	3.85	3.75	3.85
4.00	2.40			Gt. West Coal A	750	7¼	8	7¼	7¼
9	7	1.50	6.9	Do. (B)	100	6¼	6¼	6¼	6¼
2	1	.22½		Gt. West-Life	10	28¾	28¾	28¾	28¾
207	190	2.00 + 1.50		Greening Wire	25	4¼	4¼	4¼	4¼
4.50	4.15	.20 + *.05		Gurney Prods.	10	4¼	4¼	4¼	4¼
4.30	2.60			Do. pref.	20	26¼	26	26	26
28¾	25	1.60	6.2	Gypsum, Lime	1170	61	62	60	61
62	51¼	11.20		Hahn Brass	345	16	16¼	16¼	16¼
16¼	15	.80	4.8	Do. (A)	95	16	16	16	16
18¼	15¼	.80	5.0	Can. Cot., pref.	90	16	16	16	16
99	98	5.00	5.2	Harding Carpet	8	98	98	98	98
9	8	2.45		Hayes Steel	400	8	8¼	8	8¼
36	32¼	•1.50			305	34¼	36	33¼	35

▲U. S. funds. ▲▲Participating divo. ▪Dividend deferred.
▪Plus stk. divd. ♦Initial. ♦Shown in francs. ▪▪On arrears.
*Paid in 1954. †Payable in 1955 to date. ‡Less than Board Lot.

Mining Stocks

Range 1955 High	Low	Div. Rate $	Company	Sales	Last June 10	Week Ending June 17 High	Low	Close
.17	.11		Acadia Uran.	54,925	.14	.15	.12	.14
8.60	3.75		Aconic	5,010	8.45	8.60	8.45	8.60
.38½	.11		Ad Astra	44,700	.33	.38½	.35	.38
.63½	.50		Akaitcho	12,700	.55	.55	.50	.50
22.25	12.25		Algom	13,905	19.75	20.50	19.50	20.00
13.25	8.50		Do. warr.	1,980	10.37½	11.50	10.37½	11.00
98.25	97.00		Do. 5% pfd.	250	97.50	97.25	97.25	97.25
.32	.09		Alta.	3,500	.19	.17½	.15	.16
.22	.10		Amal. Lard.	11,947	.17	.20	.16	.17
.44	.15		Amer'm.	45,600	.22	.24	.20½	.20½
1.35	.98		Amer. Neph.	13,500	1.29	1.32	1.25	1.30
.13	.07		Amer. Stand.	1,000	.10	.09	.09	.09
4.10	3.00		Anacon L'd.	23,164	3.25	3.30	3.15	3.25
13.75	13.00	.50	Anglo-Hur.	3,700	13.00	13.25	13.25	13.25
.79	.38		Anglo-Rou.	19,000	.50½	.55	.48	.55
.80	.45		Area	11,900	.65	.65	.60	.62
.19	.10		Arjon	13,000	.13½	.13	.11½	.11½
.07	.02		Arno	9,500	.03½	.03½	.03	.03½
.13	.07		Arnora	7,500	.11	.11	.09	.09
.78	.41		Ascot Met.	46,150	.48	.50	.43½	.45½
.65	.15		Atlas Sulp.	11,423	.17½	.18	.13½	.17
.19½	.11		Atlas Y'fe	6,300	.13	.13	.11	.12
.35	.06¾		Atlin-Ruff	154,200	.28	.32	.27	.32
.19	.07½		Aubelle	25,800	.12	.13½	.12	.12½
.38	.16		Aumacho	145,991	.36	.38	.29	.31½
.18½	.11½		Aumaque	20,750	.11½	.14	.11½	.12
.58	.22		Aunor	1,433	2.17	2.20	2.15	2.20
.49	.29½		Avillabona	16,200	.11	.12	.09½	.10
.12½	.09¼		Bagamac	19,000	.13	.14	.12½	.14
.49	.29½		Bankeno	170,840	.32	.42	.32	.36
.12½	.09¼		Bankfield	500	.08	.07½	.07½	.07½
2.16	1.06		Barnat	23,200	1.11	1.12	1.06	1.06
.17	.04		Barvallee	2,500	.10	.10½	.10½	.10½
1.58	1.30		Barvue	41,150	1.38	1.58	1.37	1.55
.50	.30		Do. warr.	240	.30	.32	.32	.32
3.05	2.33	↑.95	Barymin	12,075	2.90	2.94	2.80	2.90
2.95	.69		Base Metals	70,600	.60	.79	.50	.65
.19½	.03		Baska	88,300	.69	.70	.65	.68
.68	.27		Bathurst	26,225	2.10	2.25	2.15	2.20
.19½	.03		Beatrice	233,500	.16	.19½	.12	.15
.38	.17		B'Tac	67,350	.46	.53	.43	.49
6.20	3.00		Beaucage	18,200	3.55	3.85	3.50	3.80
.85	.45		Beaver L'ge	76,345	.74½	.85	.69	.85
.96	.35		Belcher	355,665	.80	.95	.76½	.77
.60	.40		Bellechase	30,500	.67	.75	.70	.74
.29	.07		Bell-Chib.	17,500	.15	.16	.15	.16
1.60	.70		Berens R.	1,600	.95	.90	.90	.90
3.40	2.00	↓.05	Belleterre	2,120	2.11	2.20	2.12	2.20
.52	.21		Beta Gam.	44,100	.37	.37	.32	.35
.25	.11		Bevcourt	631,900	.11½	.11½	.11	.11½
.15	.10		Bibis-Yuk	47,100	.13	.15	.13	.14
3.30	2.85		Bidgood	37,600	.07½	.09	.07½	.08½
.11½	.06		Bidgood	37,600	.07½	.09	.07½	.08½
3.80	1.80		Black Bay	643,545	2.88	3.80	3.00	3.65
2.84	2.20		Blue Rock	37,000	2.50	2.84	2.35	2.80
.42	.24		Bobjo	184,000	.33	.42	.34	.40
.25	.13		Bonville	40,700	.16	.16½	.13½	.15½
.21	.06		Bordulac	558,025	.13	.21	.12	.17
2.95	2.30		Boreal	10,700	2.75	2

Significant Investors' Index Numbers

	Mach. and equip.	Pulp and paper	Milling	Oils	Textiles and clothing	Food and allied prod.	Beverages	Bldg. mater.	Power and traction	Banks	Total utilities	Total co's
No. of Securities	11	9	2	5	10	14	10	15	9	7	14	99
*1935 to date:												
High	737.0	1058.2	184.9	178.6	410.5	177.6	589.0	454.7	185.8	243.8	204.8	239.2
Low	69.7	51.6	61.2	41.2	78.4	79.5	79.3	66.7	60.2	60.0	62.5	61.1
1955 Monthly Figures:												
Jan.	554.2	840.5	157.9	161.0	179.6	154.7	511.0	396.9	165.6	230.8	181.0	207.3
Feb.	592.7	873.6	171.0	162.0	178.2	157.6	518.7	407.4	167.7	241.1	184.0	214.7
Mar.	616.4	864.5	162.1	158.5	173.0	159.9	511.8	404.6	119.8	236.5	185.2	213.7
Apr.	641.3	911.0	172.7	157.5	169.4	169.8	507.8	408.6	173.6	233.0	185.6	216.5
Weekly Figures:												
May 5	657.5	988.9	184.5	155.0	167.9	169.3	514.7	419.4	173.4	230.5	190.7	219.3
May 12	638.1	990.3	183.7	152.6	167.7	169.6	546.0	419.6	172.7	237.1	189.0	219.3
May 19	654.6	987.5	176.1	153.8	173.8	171.2	579.9	427.4	172.5	235.4	192.0	223.1
May 26	683.5	998.7	176.1	154.4	170.7	173.9	586.1	428.4	175.1	234.6	195.2	226.7
Jun. 2	689.7	1021.1	177.5	156.5	168.7	171.6	570.7	432.0	174.5	237.5	198.1	229.7
Jun. 9	737.0	1058.2	176.5	161.3	175.0	173.5	577.6	448.1	182.0	241.0	202.2	236.2
Jun. 16	723.9	1054.0	181.5	166.2	171.9	177.6	589.0	454.7	185.8	241.7	204.8	239.2

*High and low for year from 1935 to date inclusive are based on weekly figures issued by the Dominion Bureau of Statistics.

Toronto Stock Exchange Index

	20 Indus.	20 Golds	15 B.M.	15 W.O.
June 20	415.54	85.95	195.91	113.29
June 17	415.44	85.98	195.45	113.21
June 16	414.31	85.50	194.51	112.49
June 15	411.63	85.27	194.29	112.14
June 14	410.71	85.28	191.29	111.62
Month Ago	398.42	82.97	181.12	105.78
Year Ago	343.52	73.27	148.??	89.20
1955 High	415.71	85.98	196.02	113.38
1955 Low	374.18	79.03	157.31	98.68

Montreal Stock Exchange Index

	10 Util	20 Indus	30 Com	10 Pprs	15 Golds
June 20	135.8	289.5	238.0	1448.58	84.03
June 17	136.3	289.4	238.4	1453.23	83.89
June 16	135.1	288.6	237.4	1454.07	83.97
June 15	134.6	288.5	237.2	1449.88	83.84
June 14	135.0	286.6	236.0	1450.95	83.84
Mon. Ago	126.2	271.3	229.9	1339.63	80.83
Year Ago	106.9	205.0	172.3	932.04	56.90
1955 High	136.3	289.5	238.4	1454.07	84.03
1955 Low	117.7	243.2	201.3	1139.92	67.43

Dow-Jones Closing Stock Averages

	30 Indus.	20 Rails	15 Util.	65 Stocks
June 20	444.38	160.70	64.37	163.40
June 17	444.08	161.16	64.22	163.42
June 16	442.48	161.07	64.16	163.05
June 15	441.93	161.03	64.18	162.94
June 14	438.20	161.09	64.11	162.18
Month Ago	420.32	155.59	63.75	156.82
Year Ago	328.56	112.21	58.03	123.28
1955 High	444.38	161.85	65.52	163.42
1955 Low	388.20	137.84	61.76	144.39

Government Bonds

June 21, 1955 (Supplied by Investment Dealers' Assoc. of Canada)

%	Due	Bid	Ask
Govt. of Canada Bonds:			
2	Jan. 1959	100¼	100⅜
3	June 1960	101¼	102
3	Feb. 1962	102	102¼
3	Oct. 1963	101½	102¼
3	Sept. 1966	101⅞	102⅜
3¼	June 1966	101¼	101¾
3	Perpetual	95¼	96¼
2¾	June 1968	98⅜	98⅞
3¾	Jan. 1975/78	107⅞	108⅜
3¾	June 1974/76	101½	102
Cdn. Nat. Railways:			
3	Jan. 1959	100⅜	100⅞
4½	Feb. 1956	■101½	101¾
2¾	Jan. 1967	98¼	99¼
3	Jan. 1966	101¼	102¼
2¾	Sept. 1969	98¼	99¼
4¼	July 1957	♦105	105¼
Govt. of C. Guaranteed Bds.:			
Grand Trunk Pacific Rly.:			
3	Jan. 1962	■102½	103½
4	Jan. 1962	■108	108⅞

■Payable Can., N.Y. or £.

%	Due	Bid	Ask
Prov. Govt. Bonds			
Alberta:			
2¾	Mar. 1970	97⅞	99⅞
British Columbia:			
4½	Jan. 1969	♦112	114
3	Dec. 1960	99½	100½
3	June 1964	99½	101
5	Sept 1959	♦109	111
B. C. Power Comm.:			
3	Oct. 1967	98	99
Manitoba:			
4	Dec. 1957	♦103	105
5	Dec. 1959	■109	111
5½	July 1958	105⅞	107½
3	Oct. 1965	99	100½
4½	Dec. 1956	♦103	105
New Brunswick:			
4½	Apr. 1961	♦107	109
2¾	June 1966	94¼	95¾
3¼	May 1957	100	101
3½	Sept. 1965	100½	101½
Nova Scotia:			
4½	Nov. 1960	♦107	109
5	Mar 1960	♦109	111
3¾	June 1963/65	100¼	101½
3	June 1956/58	99⅞	100⅞
2¾	June 1965/68	94⅞	95⅞

%	Due	Bid	Ask
Ontario:			
2¾	Nov. 1965/69	95⅜	96⅜
4	June 1962	■107	109
4¼	Jan. 1962	■108½	110½
2¾	July 1967/76	92	94
3	Nov. 1963/65	100½	101
5	May 1959	■108	110
Ont. Hydro Commission:			
4	Aug. 1957	■103	104½
2¾	Oct. 1965/68	93½	95½
3	Dec. 1963/65	100½	100⅞
3	Nov. 1967/69	99	95½
Prince Edward Island:			
3	Oct. 1965	97½	98½
Quebec:			
4½	Aug. 1958	104½	105½
4½	Jan. 1963	108½	109½
3	Sept. 1962/64	99⅞	100⅞
Quebec Hydro Commission:			
3	Feb. 1969/73	96	97
3	Dec. 1958/60	100	101
3¼	May 1971/74	98½	99½
Saskatchewan:			
4	Nov. 1955/60	100	100⅞
5	Aug. 1958	104½	106½
4¼	Mar 1960	♦107	109
5	Dec. 1959	♦109	111
3	Mar. 1963	97½	99
3¼	Nov 1960/62	98½	100
3¾	Oct. 1962/65	101	103
Newfoundland:			
4¾	July 1964	105⅞	106⅞

♦Payable Can. or N.Y. †Callable on or after Sept. 15, 1966.

Unlisted Mines, Oils

Approximate quotations, 3 p.m., June 20, subject to confirmation and change. An asterisk (*) indicates an increase in price, a dagger (†) a decrease in price.

	Bid	Ask
Abenakis	1½	2½
Abeta	23	28
Advance	*41	44
Alexander	6	8
Ama Kir	3	5
Anabar	†10	15
Anamq	1	3
Anuwon	*38	43
Arctic	4	6
Beacon	10	13
Belfast	*14	17
Bi Ore	3	5
Boroco	2	3
Blondor	1	3
Bl Grass	†38	43
B McDade	6	8
Bourlamaq	3	4
Brahinco	8	11
B Breest	13	14
Bright	5	6
Brunet	*14	18
Camlaren	5	7
Camray	4	6
Can Rad	25	30
Canalask	15	19
Captain	3	4
Canuba	*160	180
Cn Mag	175	200
Cdn Alm	*51	55
Cn Lith	†150	160
Cen Man	8	10
Clinger	10	12
Clix	17	19
Columbier	1	2
Columind	4	6
Comstock	8	10
Conecho	23	28
Cn Cop	17	19
C Harper	6	9
Cordell	28	32
Crack S	33	37
Craibbe	13	15
Croyden	2	4
Derlac	2	3
Destorad	†16	19
Dom Ex	11	14
Dunvegn	*20	22
Dupel	15	25
Durham	†7	10
East Lun	7	9
Echo Ind	1½	3
El Bonan	4	6
Farcroft	34	39
Fleetwd	†30	35
Forty Fr	75	100
Gan Cop	*9	11
Glenbrk	14	16
Glencona	3	4
Goldmaq	9	11
Goldyke	16	20
Gov Gold	7	9
Gr Chib	80	100
Gui Por	*35	45
Harker	3	4
HG Yung	15	18
Hornfault	8	10
Hotstone	3	5
Hucamp	14	17
Independ	15	17
Indian M	35	40
Iron Bay	215	225
Iso	†52	57
Jardun	26	30
Jerome	7	9
Kamlac	9	11
Ken Bay	12	15
Kenda P	2	4
Kenog	†19	21
L Rong	105	115
L Nord	*245	150
Larum	13	16
L Expan	*27	30
Lassie	8	10
Lowr Can	3	5
Lun Echo	42	45
Main Ok	*60	65
Mall RL	7	10
Magoma	15	19
Manecho	11	14
Mar Bid	9	11
Maree	†5	7
Mat Yel	5	7
McManus	2	4
McCuaig	1½	3
Mid Rim	50	55
Milliken	†44	48
Miles RL	†4	6
Mindus	16	20
Mt Keno	3	4
Mohawk	1	3
Murmac	3	4
Nat New	6	9
New Aug	5	7
Nw Insco	10	15
New Met	33	37
N Rdwood	6	9
New Wal	3	5
Nickel L	19	22
Nickel O	60	80
Nipiron	†25	29
Norbeau	60	70
Norcourt	4	6
Norec	23	28
Norford	1	3
Normar	1	3
Novel Pr	†5½	6½
Obsk '45	24	26
Oklend	†8	10
Orchan	19	21
Ont RM	24	27
Ortona	4	6
Orofino	10	12
Pacemkr	43	47
Panel	*115	120
Pater	185	195
Payne	2	4
Pascalis	9	11
Peach	*2350	2500
Pelangio	3	5
Phelps	1	2
Picton	34	38
Pine P	*1700	1750
Pitchvin	*20	24
Plum N	1½	2½
Polestar	†34	37
Presdor	3	5
Quejo	6	8
Quest	2	4
Rainville	†55	65
Rand M	5	7
Randona	3	5
R Earth	295	310
Redbark	24	28
Redcon	4	6
Redruth	2	4
Rhyolite	3	5
Richgroup	7	9
Rugged	3	5
Russet	5	8
St Mary	35	40
St Michl	75	78
Salmita	4	6
S Dufault	5	8
Sheldon	11	14
Silv Lake	1½	3
Snow L	3	4½
Starlight	*43	46
Sunbear	2	4
Tazin	12	14
U Ridge	*97	102
Valor	†65	70
Vauz Duf	3	5
Viking	11	13
Wadge	8	9
Wesley	11	13
Westall	4½	6
West R L	3	4
W Wasa	†5	8
Y David	6	8
Yellw vt	250	—
OILS		
Albfield	5	7
C Sup	1350	1400
Franco	40	—
Major Oil	2	3½
N Ranch	8	10
O Smoky	*22	25
Paig Pete	5	10
West Lock	8	10

Unlisted Mines, Oils

(Compiled from quotations by G. E. Leslie & Co., Montreal)

June 20, 1955

Stock	Bid	Off.
Abeta	25	30
Absam	..	15
Adnor	4	6
Anthonian	37	40
Belmont	5	10
Bluegrass	40	45
Cal. Cont	5	8
Cardinal	43	48
Clinger	10	11
Cont. Cop.	15	17
Dawmac	210	225
Derogan	90	95
East. Asb.	125	130
Flu Bar	100	105
Fundy Bay	14	17
Garland	48	58
Glencona	3	4
Goldmaque	9	12
Imper. Min.	30	..
Independ.	15	17
Int'l Asb.	20	25
Kamlac	9	11
Kenbay	12	14
Kenmac	72	80
K. Copper	42	47
L. Nordic	140	150
Lassie	9	11
Lorie New	3	5
Lun Echo	43	48
Mackellar	..	25
Main Oka	50	60
M'gomery	4	5
Nat'l Mal	5	7
New Mal	4	6
New Augur	6	8
New Pen	12	14
Nipiron	24	27
Norbeau	58	68
Oklend	9	11
Ont. Nickel new	9	11
Pascalis	6	8
Power Ur.	37	39
Provincial	3	4
Que. Beryl	29	31
Quedon	22	25
Quejo	6	8
Rainville	55	62
Rand Mal	5	7
Redcon	3	5
Roymont	..	15
St. Lawr.	130	140
St. Mich.	75	80
St. Simeon	..	15
Scott Chib	4	6
Sheff. Cop.	..	32
South Bach.	10	..
Starlight	43	45
Titanium	80	85
Trans. Dom.	9	11
Ur. King	10	12
Wesley	12	14
W. Leys	32	35
Young Dave	4	6

Oil Stocks (Continued)

.52	.35	...	Antone	15,600	.39	.38½	.35	.37
.09⅞	.03⅞	...	Apex	18,500	.06½	.07	.06½	.07
13.75	6.75	...	Bailey-Sel.	51,750	11.62½	13.75	11.25	12.00
2.78	1.95	...	Banff	16,140	2.10	2.25	2.11	2.15
.05	.03½	...	Barons	12,500	.04⅞	.04½	.04½	.04½
.55	.34	...	Basca	11,800	.39½	.40	.39	.39½
.11	.08	...	Bashaw	1,000	.08	.08	.08	.08
21	.14	...	Bata	12,830	.16	.17½	†.14	.17
.68	.35	...	Blue Crown	5,366	.37	.38	.35	.36
1.96	1.22	...	Bonnyville	42,705	1.90	1.96	1.88	1.96
1.35	.98	...	Bralsaman	2,300	1.05	1.10	1.05	1.05
3.85	2.50	...	Britalta	23,540	2.64	2.90	2.60	2.90
.09½	.05	...	Br. Peto	5,500	.06	.05½	.05½	.05½
.80	.60	...	Calalta	20,000	.72	.75	.68	.75
18.00	13.37½	.10	Calg. & Ed.	25,045	14.75	18.00	14.75	18.00
.29	.13½	...	Calnorth	2,600	.20	.19	.17	.18
6.50	4.90	...	Calvan	2,021	5.50	5.80	5.45	5.55
4.75	2.75	...	Can. O. L'ds	3,505	3.00	3.15	2.95	3.10
2.75	1.60	...	Do. warr.	1,200	1.75	1.60	1.60	1.60
.60	.40	...	Canadian Ad.	18,098	.45	.49	.40	.43
.34	.13½	...	Cdn. Ana'da	7,950	.20	.20	.19	.20
7.30	5.65	...	Cdn. Atlan.	5,892	6.00	6.30	6.05	6.15
1.75	.65	...	Cdn. Br. E.	31,300	.77	.83	.75	.77
.89	.60	...	Cdn. Dec.	10,503	.60	.73	.65	.73
.34	.17	...	Do. warr.	....	.21	.34	.21	.26
2.15	1.75	...	Cdn. Dev.	30,820	2.00	2.04	1.90	1.93
.20	.10	...	Cdn. Emjay	2,899	.11	.11	†.09	.10½
3.00	1.95	...	Cdn. H'stead	9,589	1.95	2.05	1.95	2.05
.84	.48	...	Cdn. O&G	211,815	.72	.74½	.68	.72
2.55	1.42	...	Cdn. PL&P	35,457	2.30	2.35	2.10	2.20
11.00	6.50	...	Cdn. Prosp't	100	11.00	9.75	9.75	9.75
5.25	3.50	...	Cdn. Wil'ston	600	3.80	3.75	3.50	3.60
1.85	1.20	...	Canso Gas	639	1.35	1.38	1.25	1.38
3.30	2.05	...	Canso Pet.	3,158	2.50	2.95	2.25	2.95
5.20	2.90	...	Canso. Prod.	535	2.90	2.95	2.92	2.95
.35	.27	...	Carleton	4,500	.30	.31	.30	.30
.33	.20	...	Castle O.&G.	200	.21	.21	.21	.21
[illegible]	4.50	...	Cent. Exp.	700	5.00	5.10	5.00	5.05
2.50	1.35	...	Cent-Leduc	47,205	2.25	2.50	2.25	2.25
.75	.31½	...	Century	31,600	.51	.52	.50	.52
.60	.25	...	Chamberlain	10,500	.28	.32	.28	.32
2.05	1.57	...	Charter	12,600	1.58	1.75	†1.55	1.74
1.42	.45	...	Claybar	6,800	.50	.50	.45	.50
.76	.75	...	Command	60	†.65	†.60	†.60	†.60
.25	.14½	...	Cons. Allen	27,900	.16	.18	.16	.18
.36	.20	...	Cons. Cord.	2,600	.20	.24	.22	.22
.70	.35	...	Cons. Dragon	15,283	.39	.43	.38	.42
.81	.40	...	Cons. E. C.	10,096	.62	.64	.58	.62
.05	.03	...	Cons. Gr. C.	2,565	.04½	.04½	.03	.04½
3.20	2.00	...	Con. Mic. M.	85,261	2.83	3.20	2.80	3.20
.19	.1.	...	Cons. Peak.	41,091	.13	.14	.13	.14
4.10	2.05	...	Con. W. Pet.	7,800	4.00	4.10	3.95	4.05
.20	.15	...	Dalhousie	1,360	.17	.19	.16½	.16½
1.80	1.05	...	Del. Rio	56,645	1.65	1.80	1.65	1.70
1.90	1.25	...	Dev. Leduc.	157,360	1.50	2.01	1.45	2.00
6.90	5.10	...	Dome	2,129	5.30	5.40	5.10	5.10
.24	.10	...	Dom. Min'ls	73,800	.15	.14	.12½	.14
.40	.14	...	Edoran	124,700	.31	.35	.28	.35
.51	.27	...	Emp. Oil	8,000	.30	.32	.30	.31
2.85	1.72	...	Fargo	12,050	2.22	2.38	2.24	2.35
5.70	3.60	...	Federated P.	20,865	4.95	5.30	4.80	5.25
.45	.19	...	Fortune	5,300	.35	.31	.27	.27½
.03	.02	...	Freehold	1,000	.03	.03	.03	.03
.94	.60	...	Gas Expl.	36,800	.90	.94	.88	.92
.33	.19	...	Gaspe	3,000	.26	.25	.20	.20
.16	.08	...	Gateway	58,400	.12	.13	.12	.13
6.50	5.10	.20	Gen. Pet.	400	6.10	5.95	5.75	5.75
6.45	5.25	.20	Do. A	1,600	5.70	5.70	5.45	5.70
23.50	18.50	...	Gt. Plains	2,450	21.00	23.00	21.25	23.00
4.00	2.00	...	Gt. Sw't. Gr.	222,414	3.25	3.55	3.20	3.45
12.00	7.75	...	Gridoil	350	9.70	10.00	9.60	10.00
.05	.03⅞	...	Hargal	1,015	.03⅞	.03⅞	†.02	†.02
.39	.23½	...	Henderson	2,500	.25	.25	.23½	.25
.30	.15	...	High C'rt	4,500	.16	.19	.17	.19
.15	.10	...	High Sarcee	3,100	.11½	.12	.10	.12
10.00	5.00	*.25	Hi-Tower	470	5.75	6.00	5.50	6.00
10.87½	7.50	...	Home	7,049	9.75	10.50	9.85	10.25
10.00	7.20	...	Husky	3,825	7.60	7.60	7.30	7.35
.15	.07½	...	Hy-Charger	60,100	.10½	.10½	.08	.10½
1.85	1.45	...	Jasper	2,200	1.58	1.78	1.55	1.60
2.95	1.77	...	Jupiter	4,100	2.80	2.80	2.75	2.75
.43	.25	...	Keno	4,500	.27	.27	.25	.25½
1.52	1.10	...	Kroy	27,950	1.26	1.38	1.30	1.37
.35½	.24½	...	Leduc, Cal.	2,750	.27	.29	.27	.28
4.00	3.00	...	Liberal	26,800	3.25	3.50	3.20	3.45
.15	.08	...	Long Is. P.	16,000	.10	.11	.09⅞	.11
.44	.30	...	Marigold	12,600	.30	.36	.30	.33
.04	.02	...	Marvel	5,000	.03	.04	.03½	.04
.09	.05½	...	Mercury	10,800	.07	.07	.06	.06½
.12½	.06	...	Merland	600	.08	.08	.07½	.07½
9.75	7.85	...	Merrill Pet.	15,730	8.65	9.40	8.65	9.15
.56	.39	...	Midcon	10,900	.42	.46	.43	.45
.31	.20	...	Mill City	37,900	.24⅞	.25	.23	.25
2.10	1.50	...	Nat. Pet.	2,200	1.60	1.65	1.65	1.65
1.55	1.05	...	N. Bristol	65,610	1.30	1.30	1.23	1.27
3.15	2.10	...	N. British	10,960	2.60	2.70	2.50	2.69
.81	.50	...	N. Concord.	49,866	.52	.81	.57	.75
.55	.35	...	N. Cont.	84,510	.41	.55	.40	.43
.09⅞	.04½	...	N. Pacalta	114,146	.06½	.09	.06½	.08
.10	.06	...	New Ranch.	18,000	.09	.09½	.08½	.08⅞
.42	.22	...	N. Richfield	3,900	.30	.29½	.27	.29½
3.20	2.30	...	N. Superior	4,054	2.50	2.60	2.45	2.55
.17	.11	...	Nordon	2,300	.14	.14	.12	.14
5.95	4.50	...	North Can.	2,250	4.70	4.80	4.55	4.55
.04	.02	...	N. Cont.	6,000	.02⅞	.02⅞	.02⅞	.02⅞
.31½	.22	...	Northland	2,300	.24	.28	.26	.28
.96	.55	...	Nucco	2,742	.60	.58	.55	.58
.11	.04½	...	Oil Select	57,300	.07	.09	.06½	.09
1.59	1.30	...	Okalta	8,650	1.46	1.45	1.36	1.42
12.75	10.25	...	Pac. Pete	13,420	12.00	12.75	12.12½	12.25
.38	.25½	...	Pan West	9,600	.27½	.29⅞	.27	.29⅞
4.80	3.15	‡.15	Parker Drill	325	3.35	3.35	3.30	3.35
.89	.47	...	Pathfinder	41,226	.58	.69	.57	.60
9.80	7.25	...	Peace River	17,635	8.40	9.80	8.35	9.60
3.40	1.68	...	Peruvian	19,950	2.95	2.95	2.80	2.85
.60	.40	...	Petrol O.	18,600	.42	.43	.41	.42
1.65	.90	...	Phillips Oil	2,000	1.05	1.10	1.01	1.10
1.15	.68	...	Ponder	70,005	1.00	1.15	.99	1.10
1.30	.40	...	Pontiac	3,300	.53	.50	.45	.50
.35	.22	...	Poplar	5,000	.32	.35	.32	.35
3.50	2.05	...	Prairie	9,950	2.95	3.10	2.90	3.00
.16	.08	...	Que. Oil. Dev.	2,500	.12	.12	.08	.08
.07	.02⅞	...	Realty	40,500	.07	.07	.06½	.07
.14	.07½	...	Reef Pet.	10,900	.11	.10	.10	.10
.06½	.05	...	Renfrew	2,000	.05	.05	.05	.05
.65	.40	...	Rio Prado	48,850	.46	.55	.46	.53½
.16	.09	...	Roxana	4,542	.11	.11	.10½	.10⅞
.10	.07	...	Royal Can.	4,750	.09	.09	.08	.09
13.75	10.62½	.26	Royalite	7,229	11.37½	12.50	11.25	12.50
30.50	29.00	1.31¼	Do. 5¼% pf.	400	30.50	30.50	30.50	30.50
.19½	.10	...	Sage	5,500	.11	.12	.11	.11
4.95	3.80	...	Sapphire	19,040	4.15	4.35	3.95	4.00
2.98	1.05	...	Scurry-Rain.	32,900	1.81	2.05	1.80	2.04
3.35	1.80	...	Security	61,626	2.35	3.35	2.45	3.25
.32	.17½	...	Select Oils	5,800	.18½	.17	†.17	†.17
.06⅞	.04	...	Share Oils	2,000	.04	.05	.05	.05
.52	.30	...	Souris Val.	3,100	.45	.45	.40	.40
1.00	.50	...	South. Un.	15,850	.79	.75	.70	.72
.62	.23	...	Sparmac	18,300	.35	.35	.32½	.33
.28	.13	...	Spooner	1,700	.20	.20	.19	.20
.84	.55	...	Stanwell	5,798	.62	.62	.55	.57
.22	.07½	...	Sturgeon	1,600	.16	.13	.13	.13
1.20	.75	...	Texas Cal.	5,020	.76	.77	.76	.77
2.35	1.75	...	Trans. Emp.	6,284	1.90	1.90	1.80	1.85
.48	.30	...	Trans-Era	30,200	.35⅞	.35	.34	.33
.09	.05	...	Transfield	2,000	.06⅞	.06⅞	.06⅞	.06⅞
.44	.08½	...	Trend	58,400	.25	.25	.22	.24
6.95	4.35	...	Triad	69,316	6.40	6.50	6.25	6.25
1.60	1.05	...	United Oils.	84,010	1.40	1.55	1.41	1.52
.24	.17	...	Vanalta	2,300	.24	.22½	.22	.22
1.15	.37	...	Van Tor	90,800	.91	1.15	.90	1.15
.60	.29	...	Vulcan	4,500	.45	.45	.44	.45
.75	.67	...	W'Burne	12,900	.72	.72	.67	.70
.20	.11	...	W. Ashley	196,160	.18	.19½	.17	.19
6.75	4.85	...	W. L'holds.	13,160	6.55	6.60	6.30	6.40
1.90	1.30	...	W. Maygill.	5,750	1.53	1.65	1.50	1.65
1.68	1.20	...	W. Naco	6,375	1.20	1.28	1.20	1.23
.45	.30	...	Do. warr.	1,097	.35	.40	.38	.40
.17	.10	...	W. Warner	2,750	.11	.10½	.10	.10½
.90	.41½	...	Wilrich	57,500	.62	.63	.60	.60
.34	.07	...	Y'ke Can.	129,200	.25	.27	.20	.23
.80	.54	...	Y'ke Prin.	38,100	.72	.74	.71	.73
.12	.08	...	York Oils	1,500	.08	.09	.08½	.09

▲U. S. ♦Div. deferred. ♦♦Initial. *Paid in 1954. ‡Payable in 1955 to date. †Less than board lot.

Volume of Stock Sales

VOLUME OF STOCK SALES

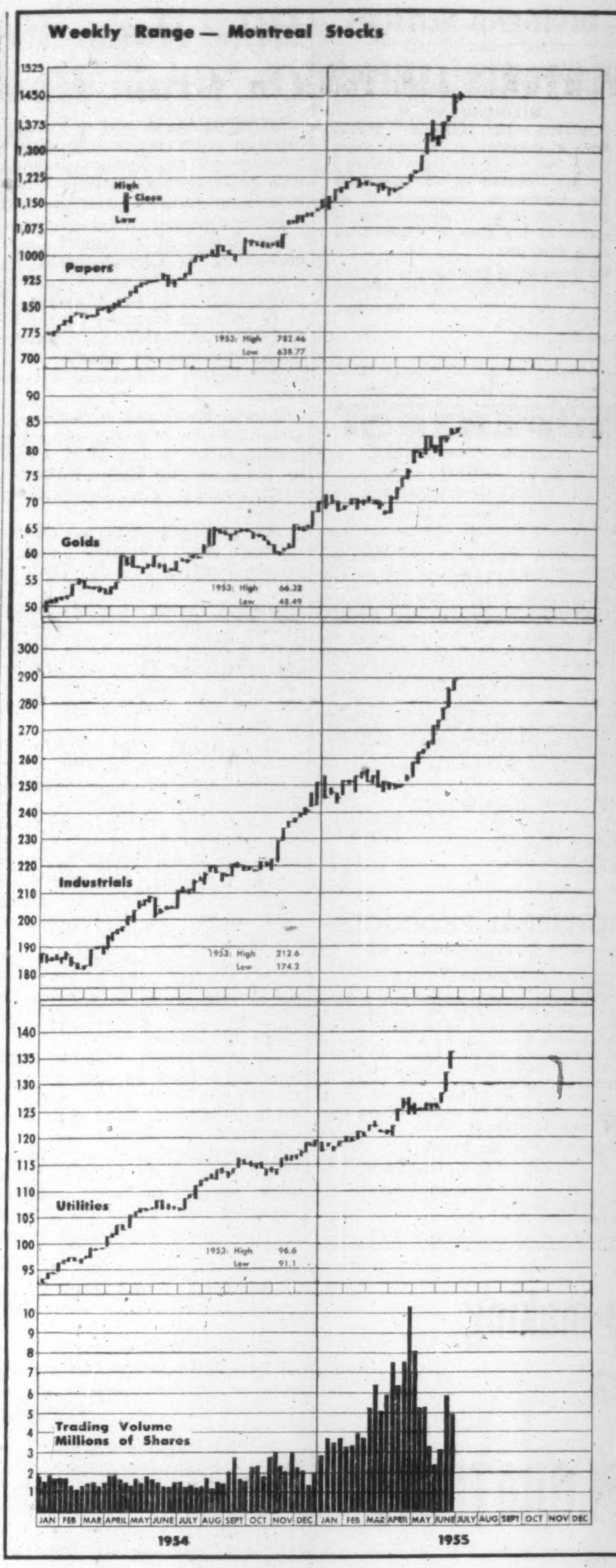
	Montreal	Toronto	Calgary	Vancouver	New York
June 20	882,900	7,105,000	......	293,307	3,580,000
June 17	880,300	6,987,000	......	340,116	3,330,000
June 16	893,000	7,645,000	226,948	218,687	3,800,000
June 15	1,329,000	8,434,000	183,744	337,839	3,700,000
June 14	818,800	7,695,000	193,308	209,231	3,960,000

Dividends Declared

	This payment $	Date payable	Date of record *
Abitibi Pwr. & Pap.	.30	Jul. 1	Jun. 1
Do. 4½% pf.	.28⅛	Jul. 1	Jun. 1
Acadia-At. Sug.	.12½	Jul. 2	Jun. 10
Do. Cl. A	.30	Jul. 2	Jun. 10
Admiral Corp.	†.25	Jun. 30	Jun. 15
Amer. Cyanamid	†.50	Jun. 24	Jun. 12
Do. 3½% B pf.	†.87½	Jul. 1	Jun. 2
Do 3¾% pf.	†.93¾	Jul. 1	Jun. 2
Anglo-Cdn. Pulp & Pap.	.50	Jul. 7	Jun. 15
Do. $2.80 pfd.	.70	Jul. 20	Jun. 30
Anglo-Cdn. Tel. 4½% pf.	.56¼	Aug. 1	Jul. 8
Anglo-Huronian	.25	Jul. 28	Jun. 24
Anglo-Nfld. Dev.	.15	Jul. 5	Jun. 3
Anthes-Imp.	.30	Jul. 15	Jun. 24
Do. 6% pf.	3.00	Aug. 1	Jul. 25
Argus Corp	.20	Sep. 1	Jul. 29
Do. $2.40 2nd pfd.	.60	Aug. 2	Jul. 15
Asbestos Corp.	.25	Jun. 30	Jun. 9
Ashdown Hdwe. A	.15	Jul. 1	Jun. 10
Do. B	.18	Jul. 1	Jun. 10
At. Wholesalers A & B	.10+‡.10+♦♦stk. div.	Jul. 2	Jun. 15
Barber-Ellis 7% pf.	1.75	Jul. 15	Jun. 30
Bk. of Nova Scotia	.45	Aug. 1	Jun. 30
Beatty Bros.	.10	Jul. 1	Jun. 15
Beld. Cort. 7% pf.	.17½	Jul. 2	Jun. 10
Belgium Stores 5% pf.	.25	Jul. 1	Jun. 15
Bell Tel.	.50	Jul. 15	Jun. 15
Biltmore Hats	.10	Jul. 15	Jun. 17
Do. A	.25	Jul. 15	Jun. 17
Bird Construct.	.60	Sep. 30	Sep. 15
Do	.60	Dec. 31	Dec. 15
Do.	2.50	Oct. 1	Sep. 15
Brazil. Tr. Lt. & Pwr. 6% pf	1.50	Jul. 1	Jun. 15
Br. Am. Ass.	.94	Jul. 1	Jun. 17
T. G Bright & Co. 5% pf	.28⅛	Jun. 30	Jun. 15
Br. Amer Oil	.21¼	Jul. 2	Jun. 3
B.C. Elec. 4% pf.	1.00	Jul. 2	Jun. 7
Do. 4½% pf.	.56	Jul. 2	Jun. 7
Do. 4¾% pf.	1.19	Jul. 2	Jun. 7
Do. 5% pf.	.63	Jul. 2	Jun. 7
B. C Forest Prod.	.10	Aug. 2	Jun. 30
B. C. Pwr.	.30	Jul. 15	Jun. 21
B. C. Tel.	.50	Jul. 1	Jun. 16
Building Prod.	.45	Jul. 2	Jun. 10
Burlington Steel	.25	Jul. 2	Jun. 10
Burns & Co. A	**1.00	Jul. 29	May 15
Do B	**1.00	Jul. 29	May 15
Calgary Pwr. 5% pf.	1.25	Jul. 2	Jun. 3
Campbell Red Lake M.	.10	Jul. 27	Jun. 28
Can. Bread	.10	Jul. 1	Jun. 16
Do 5% B pf.	.62½	Jul. 1	Jun. 16
Canada Cement pfd.	32½	Jun. 20	May 20
Can Flooring B	.20	Jun. 30	Jun. 15
Can Iron F'dries	.30	Jul. 2	Jun. 10
Can. Life Ass.	1.00	Jul. 2	Jun. 15
Can. Machine	.25	Jun. 28	Jun. 10
Can Nor. Pwr.	.15	Jul. 25	Jun. 20
Can Perm. Mtge.	.65+‡.10	Jul. 2	Jun. 15
Do.	‡.10	Oct. 1	Sep. 15
Do.	‡.10	Jan. 3	Dec. 15
Can. Steamship 5% pf.	.31¼	Jul. 2	Jun. 1
Canadian Bk. of Com	.30	Aug. 1	Jun. 30
Cdn. Brew.	.31¼	Jul. 1	May 31
Do. 5% pf.	■.364	Jul. 1	May 31
Cdn. Bronze	.31	Aug. 1	Jul. 11
Do. 5% pf.	1.25	Aug. 1	Jul. 11
Cdn Can	.50	Jul. 2	Jun. 1
Cdn. Cel.	.15	Jun. 30	Jun. 3
Do $1 pfd.	.25	Jun. 30	Jun. 3
Do. $1.75 pfd.	.43¾	Jun. 30	Jun. 3
Cdn. Gen. Elec.	1.00	Jul. 1	Jun. 15
Cdn. Ice Mach. A	.20	Jul. 2	Jun. 15
Cdn. Gen. Invest.	.27½	Jul. 15	Jun. 30
Cdn. Ind. Ltd.	.10	Jul. 29	Jun. 30
Do. 7½% pfd.	.93¾	Jul. 15	Jun. 17
Cdn. Ing.-Rand	1.00	Jun. 28	Jun. 14
Cdn. Int. Inv. Tr.	.10	Sep. 1	Aug. 15
Do. 5% pf.	1.25	Sep. 1	Aug. 15
Cdn. Oil Cos. 4% pf.	1.00	Jul. 2	Jun. 1
Do. 5% pf.	1.25	Jul. 2	Jun. 1
Do. 8% pf.	2.00	Jul. 2	Jun. 1
Do. com.	.15	Aug. 15	Jul. 14
Cdn Pac. Rlwy.	.75	Aug. 1	Jun. 23
Do. pfd.	2%	Aug. 2	Jun. 30
Cdn. Refractories 4½% pf.	1.12½	Jul. 15	Jun. 29
Cdn. Westinghouse	.50	Jul. 4	Jun. 15
Catelli Foods A	.13	Aug. 31	Aug. 15
Do. A	.12	Nov. 30	Nov. 15
Do. B	.25+‡.05	May 31	May 16
Do. B	.25	Aug. 31	Aug. 15
Do. B	.25	Nov. 30	Nov. 15
Celanese Corp.	†.12½	Jun. 24	Jun. 3
Do. 7% pf.	†1.75	Jul. 1	Jun. 3
Do. 4½% pf.	†1.12½	Jul. 1	Jun. 3
Celtic Knit.	.50	Jul. 11	Jun. 13
Cent. Cdn. Invest.	.20	Jul. 2	Jun. 23
Do. 5% pf.	2.50	Jul. 2	Jun. 23
Cent. Nor. Airways A	.25	Jul. 11	Jun. 30
Do. pfd.	.25	Jul. 11	Jun. 30
Chart. Trust	.30	Jul. 2	Jun. 15
C'wealth Int.	.05	Jul. 15	Jun. 30
Do.	.37	Sep. 15	Sep. 10
Do	.38	Dec. 15	Dec. 10
Conduits Nat.	.25	Aug. 8	Jul. 25
Cons. Div. Std. Sec. pf.	.75	Jun. 30	May 31
Cons. Min. & Smelt.	.40+‡.40	Jul. 15	Jun. 17
Consol. Pap. new	▲.25+‡.25	Jul. 15	Jun. 3
Consumers Gas	.20	Jul. 2	Jun. 15
Cont. Can. $3.75 pf.	†.93¾	Jul. 1	Jun. 15
Continental Life	1.30	Aug. 1	Jul. 29
R. L. Crain	.15	Jun. 30	Jun. 10
Do.	.15	Sep. 30	Sep. 9
Crown Life	▲▲.35	Jul. 2	Jun. 20
Crown Trust	.15	Jul. 2	Jun. 20
Crown Zellerbach	†.60	Jul. 1	Jun. 13
David & Freres A	.75	Jun. 30	Jun. 15
Det. & Can. Tunnel	†.40	Jul. 20	Jul. 8
Dom. Corset	.20	Jul. 1	Jun. 17
Dome M.	.17½	Jul. 29	Jun. 30
Dom. Fabrics	.15	Jul. 2	Jun. 9
Do. 4½% pfd.	1.12½	Jul. 15	Jun. 23
Dom. Glass	.20	Jul. 15	Jun. 28
Do. 7% pf.	.17½	Jul. 15	Jun. 28
Dom.-Scot. Inv.	.25	Jun. 30	Jun. 15
Dom. Square Corp.	1.00	Jul. 15	Jun. 15
Dom Steel & Coal	.25	Jul. 28	Jun. 7
Dom. Stores	.25	Sep. 15	Aug. 17
Dom. Life Ass.	3.00	Jun. 30	Jun. 24
Dom. Tar & Chem.	.10	Aug. 1	Jul. 2
Do.	.10	Nov. 1	Oct. 1
Do. $1 pfd.	.25	Jul. 2	Jun. 1
Do. $1 pfd.	.25	Oct. 1	Sep. 1
Dom. Textile 7% pf.	1.75	Jul. 15	Jun. 15
Donnacona Pap.	.25	Jun. 28	Jun. 10
Easy Washing Mach	.05+‡.05	Jul. 2	Jun. 15
Econ. Invest. Tr.	.25	Jun. 30	Jun. 15
Enamel & Heat.	.10	Jul. 30	Jun. 30
Erie Flooring A	.30	Jun. 30	Jun. 15
T. H. Estabrooks pf.	.26	Jul. 15	Jun. 15
Famous Players	.37½	Jun. 29	Jun. 3

Dividends Declared—cont.

	This payment $	Date payable	Date of record *
Fanny Farmer	†.37½	Jun. 30	Jun. 15
Fittings Ltd. A	.30	Jul. 1	Jun. 7
For. Pwr. Sec.	1.50	Jul. 15	Jun. 30
Foundation Co.	.20	Jul. 22	Jun. 30
Fraser Cos.	.25	Jul. 25	Jun. 30
Gat. Pwr.	.30	Jul. 1	Jun. 1
Do. 5½% pf.	1.38	Jul. 1	Jun. 1
Do. 5% pf.	1.25	Jul. 1	Jun. 1
Gen. Bakeries	.10	Jul. 11	Jun. 20
Gen. Elec.	†.40	Jul. 25	Jun. 17
Gen. Pet. Ord. & A	.10	Jul. 5	Jun. 15
Giant Yellowknife	.15	Jul. 28	Jun. 28
Goderich Elev.	.50+‡.25	Jul. 2	Jun. 15
Gen. Prod. A & B	♦♦stk. div.	Jul. 14	Jun. 30
Goodyear Tire & Rub.	1.00	Jun. 30	Jun. 10
Do. 4% pfd.	.50	Jul. 31	Jul. 8
Gould Pumps Inc. pf.	†.25	Jul. 15	Jun. 24
Grand & Toy	.25+‡.10	Jun. 30	Jun. 17
Gt. Lakes Pap.	.40	Jun. 30	Jun. 15
Do. B	.30	Jun. 30	Jun. 15
Gt. Lakes Pwr. 5% pf.	.31¼	Jun. 30	Jun. 1
Gt. West Life Asce.	.50	Jul. 2	Jun. 17
Gt. West Garmet 6% pf.	.15	Jun. 30	Mar. 31
Gt. West Saddlery	.50	Jun. 30	Jun. 15
B. Greening Wire	.05	Jul. 2	Jun. 15
Hahn Brass	.25	Jul. 1	Jun. 10
Do. A	.20	Jul. 1	Jun. 10
Ham. Cot. 5% pf.	1.25	Aug. 15	Aug. 5
Harding Carp.	.15	Jul. 2	Jun. 15
Hendershot Pap. Prod.	.25	Jul. 2	Jun. 20
Hinde & Dauche	.45	Jun. 25	May 31
Hollinger Cons. G. M.	.06	Jun. 30	Jun. 2
F. W. Horner A	.12½	Jul. 2	Jun. 1
How. Smith Pap.	.25	Jul. 30	Jun. 30
Do. $2.00 pf.	.50	Jul. 30	Jun. 30
Hubbard Felt A	.75	Jul. 1	Jun. 8
Hughes-Owens A	.20	Jul. 15	Jun. 15
Do. B	.10	Jul. 15	Jun. 15
Do. 6.4% pf.	.40	Jul. 15	Jun. 15
Hur. & Erie Mtge.	1⅜%	Jul. 4	Jun. 15
Husky Oil 6% pf.	.75	Jul. 1	Jun. 15
Hydro-Elec. Sec. 5% pf.	.25	Aug. 1	Jun. 30
Imp. Bank	.30	Aug. 1	Jun. 30
Imp. Life	.37½	Jul. 1	Jun. 20
Imp. Tobacco	.10	Jun. 30	May 31
Indust. Accept.	.62½	Jun 30	Jun. 6
Do. 4½% pf.	▲1.50	Jun. 30	Jun. 6
Ingersoll Mach. & Tool A	.12½	Jul. 2	Jun. 15
Inter-City Bak.	.20	Jul. 2	Jun. 6
Int. Bronze 6% pf.	.37½	Jul. 15	Jun. 30
Int. Metal Ind. A	.40	Jun. 30	Jun. 15
Do 4½% pf.	1.12½	Jun. 30	Jun. 15
Do. B	.40	Jun. 30	Jun. 15
Int. Milling pf.	†1.00	Jul. 15	Jun. 30
Int Nickel	†.55	Jun. 20	May 24
Do 7% pf.	†1¾%	Aug. 1	Jul. 5
Int. Power	.60	Jul. 15	Jun. 15
Int Util. $1.40 pfd.	†.35	Aug. 1	Jul. 14
Invest Found.	.40	Jul. 15	Jun. 15
Do 6% pf.	.75	Jul. 15	Jun. 15
Jam Pub. Serv. Ltd.	.37½	Jul 2	May 31
Do. Co. pfd.	1.75	Jul. 2	May 31
Journal Pub.	.20	Jul. 15	Jun. 22
Kerr Addison G. M.	.20	Jun. 30	May 31
John Labatt Ltd.	.25	Jul. 4	Jun. 17
La Luz M.	.05	Jun. 30	Jun. 10
A. Lambert Inc. A	.15	Jun. 30	Jun. 15
Do.	.15	Sep. 30	Sep. 15
Do.	.15	Dec. 31	Dec. 15
Do.	.15	Jun. 30	Jun. 15
Do.	.15	Sep. 30	Sep. 15
Do.	.15	Dec. 31	Dec. 15
Laura Secord	.20	Sep. 1	Aug. 1
M. Loew's Theat.	1.00	Jun. 30	Jun. 10
London Hose A	.20	Jul. 1	Jun. 17
Lower St. Law. Pwr. 5% pf.	.25	Jul. 1	Jun. 15
W. M. Lowney	.25	Jul. 15	Jun. 15
Maclaren Pwr. & Pap.	.50+‡.50	Jun. 28	May 27
MacMil & Blo. A	.12½	Jun. 30	Jun. 10
Do. B	.20	Jun. 30	Jun. 10
Mailman Corp. $1 Prior	.25	Jun. 30	Jun. 16
Do. 5% pf.	1.25	Jul. 30	Jun. 13
Manufacturers Life	1.00	Jul. 2	Jun. 10
M. Leaf Gard.	.50+‡.30	Jul. 15	Jun. 30
Maple Leaf Milling pf.	1.25	Jul. 1	Jun. 17
Maxwell Ltd.	.06¼	Jul. 1	Jun. 17
Do. pfd.	1.50	Jul. 1	Jun. 17
L. McBrine pf	.50	Jul. 1	Jun. 15
McColl-Front. Oil 4% pf.	1.00	Jul. 20	Jun. 30
Melchers Dist. 6% pf.	.30	Jun. 30	May 31
Mersey Pap.	1.00	Jul. 4	Jun. 11
Mica Co.	.04	Jun. 25	Jun. 11
Minas Basin Pulp Op.	.50	Aug. 1	Jul. 15
Do.	.50	Nov. 1	Oct. 15
Mining Corp.	.50	Jun. 30	Jun. 3
J. S. Mitchell	.31¼	Jul. 2	Jun. 15
Mod. Containers A	.25	Jul. 2	Jun. 20
Molson's Brew. A	.20	Jun. 25	Jun. 3
Do B	.20	Jun. 25	Jun. 3
Monarch Life Asce 40% pd.	6%	Jul. 2	Jun. 17
Monarch Mtge.	1.00	Jun. 30	Jun. 22
Mtl. City & Dist. Sav's Bk	‡.40	Jul. 4	May 31
Mtl. Locomotive	.25	Jul. 2	Jun. 13
Moore Corp.	†.30	Jul. 2	Jun. 3
Do. 7% A & B	†1.75	Jul. 2	Jun. 3
Do. 4% pf.	.25	Jul. 2	Jun. 3
Do. com.	†.30	Oct. 1	Sep. 2
Do. 7% A & B	†1.75	Oct. 1	Sep. 2
Do. 4% pf.	.25	Oct. 1	Sep. 2
Nat. Hose A	.05	Jul. 2	Jun. 3
Do A	.05	Oct. 1	Sep. 3
Do. A	.05	Jan. 3	Dec. 2
Do. B	.08	Jul. 2	Jun. 3
Nat. Lead	†.50	Jun. 29	Jun. 6
Do 6% pf.	†1.50	Aug. 1	Jul. 11
Nat. Steel Car	.37½	Jul. 15	Jun. 15
Nat. Trust	.50	Jul. 4	Jun. 15
Niagara Wire W.	.50	Jul. 2	Jun. 14
Normetal M.	.10	Jun. 29	Jun. 3
Northern Can. Mtge. 6% pf.	1.75	Jul. 2	Jun. 15
N. S. Lt. & Pwr.	.35	Jul. 2	Jun. 4
Office Spec	.20	Jun. 30	Jun. 20
Ogilvie Flour	.25	Jul. 2	Jun. 3
Do. 7% pf.	1.75	Sep. 1	Jul. 29
Ont. Loan	.25	Jul. 4	Jun. 15
Ont. Jockey Club 6% pf.	.15	Jul. 15	Jun. 30
Ont. Steel	.25	Aug. 15	Jul. 15
Do. 7% pf.	1.75	Aug. 15	Jul. 15
Page-Hersey Tubes	.75	Jul. 2	Jun. 16
Peoples Cred. Jew. 6% pf.	3.00	Jun. 30	Jun. 15
Pickle Crow G. M.	.10	Jun. 30	May 31
Power Corp.	.50	Jun. 30	Jun. 6
Do. 4½% 1st pf.	.56	Jul. 15	Jun. 20
Do. 6% 2nd pf.	.75	Jul. 15	Jun. 20
Premier Tr.	1.00	Jul. 1	Jun. 17
Pressed Metals	†.25	Jun. 24	Jun. 4
Price Bros. 4% pf.	2.00	Jul. 1	Jun. 6
Do. com.	1.00	Aug. 1	Jun. 14
Quemont M.	.75	Jun. 29	Jun. 3
Que. Tel. 5% pf.	.25	Jul. 1	Jun. 3
Rapid Grip & Bat'n	.20	Jul. 4	Jun. 10
Do. 6% pf.	1.50	Jul. 4	Jun. 10
Do. 6% pf.	1.50	Oct. 3	Sep. 12
Renolds Chains A	.28	Jul. 1	Jun. 15
P. L. Robertson	.10	Jul. 1	Jun. 20
Do. 5% pf.	.50	Jul. 1	Jun. 20
Do. 6% pf.	.30	Jul. 1	Jun. 20
Do. $1 pt. pf.	.25+‡.13	Jul. 1	Jun. 20
Robinson Little	.20	Jun. 30	Jun. 15
Royalite Oil 5¼% pf.	.328125	Jul. 1	Jun. 17
Russell Ind.	.20	Jun. 30	Jun. 10
Saguenay Pwr. 4¼% pf.	1.06	Jul. 1	Jun. 10
Sangamo	.12½	Jun. 23	Jun. 20
Shaw. W. & Pwr. 4% ser. A	.50	Jul. 2	Jun. 2
Do. 4½% ser. B	.56¼	Jul. 2	Jun. 2
Sherwin-W'ms.	.45	Aug. 1	Jul. 8
Do. 7% pf.	1.75	Jul. 2	Jun. 10
Shirriff's Ltd. 5% pf.	.17	Jun. 30	on redempt.
Sicks Brew. Com. & V.T.	.30	Jun. 30	May 31
Silverwood Dair. A	.15	Jul. 2	May 31
Do. A	.15	Oct. 1	Aug. 31
Do. B	.15	Jul. 2	May 31
Do. B	.15	Oct. 1	Aug. 31
Sigma M.	.20	Jul. 27	Jun. 28
Somerville Ltd. $2.80 pf.	.70	Jul. 1	Jun. 15
Southam Co.	.45	Jun. 28	Jun. 14
So. Can. Pwr	.50	Aug. 15	Jul. 20
Do. 6% pf.	1.50	Jul. 15	Jun. 20
Stand. Pav. & Nat.	.37½	Jul. 1	Jun. 15
Stand. Radio A & B	.15	Jul. 8	Jun. 20
Stanley Brock A	.15	Aug. 1	Jul. 11
Do. B	.10	Aug. 1	Jul. 11
Stedman Bros	.25	Jul. 2	Jun. 15
Steel Co. of Can.	.30	Aug. 1	Jul. 7
Sterling Trusts	.40	Jul. 2	Jun. 18
Sun Life Ass.	.85	Jul. 1	Jun. 15
Superior Propane $1.40 pf.	.35	Jul. 1	Jun. 15
Supertest Pet. com. & ord.	.40	Jul. 15	Jun. 23
Do. pfd.	1.25	Jul. 15	Jun. 23
Supervised Am. Fd.	§§.06	Jun. 30	Jun. 22
Supervised Gr. Fd.	●●distrib.		Jun. 20
Supervised Inc. Fd.	§§.05	Jun. 30	Jun. 22
Switson Ind.	.05	Jun. 30	Jun. 17
Sylvanite G. M.	.04	Jul. 2	Apr. 29
G. Tamblyn Ltd.	.25+‡.05	Jul. 2	Jun. 15
Do. 4% pf.	.50	Jul. 2	Jun. 15
Taylor, Pearson & Car.	.20	Jul. 4	Jun. 15
Thrift Stores	.40	Jul. 2	May 31
Tip Top Tailors	.15	Jul. 2	Jun. 1
Tor. Brick	.50	Jul. 1	Jun. 15
Torbrit Silver	.05	Jun. 29	Jun. 3
Tor. Gen. Trust	.35	Jul. 2	Jun. 1
Trad. Fin. A & B	.60	Jul. 2	Jun. 8
Do. 4½% pfd.	1.12½	Jul. 2	Jun. 8
Do. 5% pfd.	.50	Jul. 2	Jun. 8
Tor.-Dom. Bk.	.32½	Aug. 2	Jun. 30
Tor. Iron Works	.25	Jul. 1	Jun. 15
Do. A	.25	Jul. 1	Jun. 15
Tor. Mtge.	1.25	Jul. 2	Jun. 15
Traders Bldg.	.30	Jul. 15	Jul. 7
Tuckett Tob. 7% pf.	1.75	Jul 15	Jun. 30
Union Accept. 2nd pt. pf.	.15	Jul. 1	Jun. 15
Union Gas	.35	Aug. 1	Jul. 8
Un. Fuel Invest A	.75	Jul. 2	Jun. 21
Do. B	1.00	Jul. 2	Jun. 21
Do. com.	1.00	Jul. 2	Jun. 21
United Steel	.25	Jun. 30	Jun. 9
Ventures	.15	Jul. 15	Jun. 30
Viau Ltd.	.50	Jul. 4	Jun. 20
Viceroy Mfg. A	.12½	Sep. 15	Sep. 1
Do.	.12½	Dec. 15	Dec. 1
Do.	.10	Dec. 15	Dec. 1
Wabasso Cot.	.12½	Jul. 2	Jun. 6
H. Walker-Good.	.75	Jul. 17	Jun. 17
West. Koot. pfd.	1.75	Jul. 2	Jun. 17
West. Ass.	1.10	Jul. 1	Jun. 17
Do 12% pf.	1.20	Jul. 1	Jun. 17



Market Comment on page 23

Record of Financing

Sales By Municipalities, Provincial and Dominion Governments, Offerings of Corporation and Foreign Securities.

DOMINION

Government of Canada Treasury Bills. Due Sept. 9, 1955 and Mar. 9, 1956, $55,000,000. Issued June 9, 1955. Sold at $99.672 to yield $1.32% and $98.811 to yield 1.61%.

Government of Canada Treasury Bills. Due Sept. 16, 1955 and Mar. 16, 1956, $55,000,000. Issued June 16, 1955. Sold at $99.666 to yield 1.34% and $98.813 to yield 1.61%.

Government of Canada. 2% notes, due May 1, 1958, $700,000,000. Issued June 7, 1955. Offered through dealers and banks at $100.00.

PROVINCIAL

Village of Westview, B.C. (Guar. by Prov. of B.C.). 3½% debentures, due June 30, 1956-75, $235,000. Issued May 30, 1955. Sold at $101.71 to Gairdner & Co. Ltd., Dawson, Hannaford Ltd. and Thomson B. Read Co. Ltd.

MUNICIPAL

Township of Dorchester North, Ontario. 4% debentures, due Mar. 1, 1956-75, $78,500. Issued June 6, 1955. Sold at $102.01 to Bell, Gouinlock & Co. Ltd.

Township of Smith, County of Peterborough, Ontario. 4¼% debentures, due July 2, 1956-75, to $68,500. Issued June 7, 1955. Sold at $103.97 to R. A. Daly & Co. Ltd. and syndicate.

School Commission of St. Paul-de-Scotstown, P.Q. 3½% and 4% debentures, due May 1, 1956-60-75, $53,500. Issued May 9, 1955. Sold directly at $99.3318.

Town of Leamington Roman Catholic Separate School, Ontario. 4% debentures, due July 1, 1956-75, $61,000. Issued May 19, 1955. Sold at $100.78 to Isard, Robertson & Co. Ltd.

Township of Woodhouse, Ontario. 4¼% debentures, due June 1, 1956-75, $22,000. Issued May 21, 1955. Sold at $104.13 to J. L. Graham & Co. Ltd.

Village of Belle River, Ontario. 4½% debentures, due July 1, 1956-75, $110,000. Issued May 21, 1955. Bought privately by Isard, Robertson & Co. Ltd.

Douglas School District No. 591, Man. 4½% debentures, due Dec. 1, 1955-69, $25,000. Issued May 21, 1955. Bought privately by Peted D. Curry & Co. Ltd.

Grenfell School District No. 150, Sask. 4¾% debentures, due June 15, 1956-75, $75,000. Issued May 21, 1955. Bought privately by Isard, Robertson & Co. Ltd.

Townships of Teck and Lebel Roman Catholic Separate School No. 2, Ontario. 5½% debentures, due July 1, 1956-75, $20,000. Issued May 21, 1955. Bought privately by Isard, Robertson & Co. Ltd.

City of Sillery, P.Q. 3% debentures, due May 1, 1956-75, $300,000. Issued June 3, 1955. Sold at $93.02 to McNeil, Mantha Inc. and Banque Provinciale du Canada.

District of Burnaby, B.C. 3¾% debentures, due July 2, 1956-75, $595,000. Issued June 6, 1955. Sold at $99.39 to Bell, Gouinlock & Co. Ltd., Pemberton Securities Ltd. and Royal Bank of Canada.

Township of Crowland, Ontario. 3¾% debentures, due June 15, 1956-75, $77,000. Issued June 6, 1955. Sold at $101.17 to Gairdner & Co. Ltd.

Town of Bathurst, N.B. 3½% and 3¾% debentures, due June 15, 1956-75, $100,000. Issued June 8, 1955. Sold at $99.849 to Wood, Gundy & Co. Ltd. and Royal Bank of Canada.

Township of Hallowell, Ontario. 4% debentures, due July 15, 1956-75, $45,000. Issued June 8, 1955. Sold at $101.46 to J. L. Graham & Co. Ltd.

School Commission of City of St. Jerome, P.Q. 3% and 3½% debentures, due May 1, 1956-65-75, $165,000. Issued June 9, 1955. Sold at $97.81 to Gairdner & Co. Ltd. and Dawson, Hannaford Ltd.

Town of Huntsville, Ontario. 3¾% and 4% debentures, due July 15, 1956-65-75, $60,000. Issued June 9, 1955. Bought privately by Bankers Bond Corp. Ltd. and R. A. Daly Co. Ltd.

Roman Catholic Separate School Board, Town of Coniston, Ontario. 4½% non-callable serial debentures, due 1956-75, $80,000. Dated July 15, 1955. Sold at $98.15 to Goss and Co. and Burns Bros. & Denton Ltd.

Moosomin Union Hospital District, Sask. 4½% debentures, due July 1, 1956-75, $130,000. Issued May 18, 1955. Sold at $99.59 to Mills, Spence & Co. Ltd.

Town of Baie D'Urfee, P.Q. 3½% and 4% debentures, due June 1, 1956-65-75, $34,000. Issued May 25, 1955. Sold at $97.81 to Cie de Valeurs en Placement Ltd.

St. James School District No. 7, Man. 4½% debentures, due Nov. 1, 1956-75, $150,000. Issued May 27, 1955. Sold at $103.81 to James Richardson & Sons.

Roman Catholic Separate School Board of City of Sherbrooke, P.Q. 3% debentures, due June 1, 1956-75, $405,000. Issued May 30, 1955. Sold at $94.47 to L. G. Beaubien & Co. Ltd., Banque Provinciale du Canada and Greenshields & Co. Ltd.

Mun. of Ste. Catherine-de-Hatley, P.Q. 3% and 4% debentures, due June 1, 1956-65-74, $20,000. Issued May 30, 1955. Sold at $95.60 to Grenier, Ruel & Co. Inc.

City of St. Lambert, P.Q. 3% and 3½% debentures, due July 1, 1956-65-75, $95,000. Issued May 30, 1955. Sold at $94.57 to Gaston Laurent Inc.

Town of Bourlamaque, P.Q. 3% debentures, due June 1, 1956-65, $36,000. Issued May 31, 1955. Sold at $96.00 to Clement, Guimont Inc.

Mun. of Otterburn Park, P.Q. 3% and 4% debentures, due June 1, 1956-65-75, $101,000. Issued May 31, 1955. Sold at $96.83 to Credit Anglo-Francais, Ltee.

Township of Ernesttown, Ontario. 4¼% debentures, due Dec. 15, 1955-74, $50,000. Issued May 31, 1955. Bought privately by Anderson & Co. Ltd.

Protestant School Commission of Bedford, P.Q. 3% and 4% debentures, due June 1, 1956-59-75, $124,500. Issued June 1, 1955. Sold at $98.69 to Credit Interprovincial Ltd.

Dividends Declared—cont.

	This payment $	Date payable	Date of record *
West Grocers A	.50	Jul. 15	Jun. 15
Do. 7% pf.	.35	Jul. 15	Jun. 15
West. Plywood B	.12½	Jul. 15	Jun. 30
Westminster Pap. A	.12½	Jul. 31	Jul. 8
Do. B	.17½	Jul. 31	Jul. 8
Geo. Weston	.25	Jul. 1	Jun. 10
White Hdwe. 1st pf.	.70	Jul. 1	Jun. 10
Do. 2nd pfd.	.57	Jul. 1	Jun. 10
Winnipeg Elec. 5% pf.	2.50	Jun. 30	Jun. 1
Woods Mfg.	●stk. div.	Jun 29	Jun. 8
Wright-Hargreaves M.	.03	Jul. 2	May 27
Zeller's Ltd.	.22½	Aug. 1	Jul. 2
Do. 4½% pf.	.56¼	Aug. 1	Jul. 2

†U. S. funds. ‡Extra.
*The ex-dividend date is usually at least two full business days prior to the record date.
■Initial for period from Mar. 17 to Jun. 30.
▲Initial.
**Final divd.
♦$1.00 per sh. subject to approval, June 8, 1955.
§Participating.
●1 cl. B ($1 par) pfd. sh. redeem. Jul. 29.
▲▲Initial following 10-for-1 stock split.
♦♦Stk. divd. of 1 sh. 3% non-cum. 2nd pf. stk. $1 par.
§§Distrib. 1-for-10 record Jun. 20-ex. dist. Jun. 17.
●●Distrib. 2-for-10 record Jun. 20-ex. dist. Jun. 17.

Bond Tenders

12 noon, June 23, 1955, **Government of Canada Treasury Bills**, Payable Sept. 23, 1955 and Mar. 23, 1956, $55,000,000. Dated June 24, 1955.

U. S. $ Value in Canada

Week Ended June 17, 1955

Mon.	98 15/32	Thurs.	98 14/32
Tues.	98 16/32	Fri.	98 12/32
Wed.	98 14/32	Ave.	98 71/160

Investment Trusts

	Divd. pd.▲ cents	Bid $	Ask $
All-Can. Comp. Fund	....	4.56	4.96
All-Can. Div. Fund	7.25	4.47	4.86
Balanced Mut.	6(15)	5.15	5.66
Can. Invest. Fund	15(29)	8.71	9.56
Canafund	60(110)	33.55	36.74
Com'wealth Inter.	16(26)	7.64	8.40
Corporate Inv.	13(26.5)	8.35	9.08
Diversified Inc. shs. B	6(10)	...	...
Dom. Equity Inv.	27(40)	14.00	14.28
Grouped Inc.	10.5(22.5)	7.37	8.03
Growth Oil & Gas	....	5.49	5.72
Inter-Amer.	....	10.84	11.91
Investors Mut.	14(29)	9.40	10.71
Leverage Fund	12(20)	5.53	6.08
Mut. Ac. F.	5.9(22.546)	5.99	6.51
Mutual Income	10.9(18.20)	5.10	5.54
Resources of Can.	6(10)	7.00	...
Sup'vised Amer.	6(6)	5.48	5.34
Sup'vised Executive	....	32.52	33.85
Sup'vised Gr'th Fund	(4.5■)	2.17	2.19
Sup'vised Inc. Fund	5(22■)	4.25	4.29
Timed Invest.	5(20)	†5.40	*5.40
Trans-Can. A	(75.4)	25.50	...
Do. B	50.3(78.6)	27.40	...
Do. C	9.6(15.6)	5.65	6.05

†Less or (*) plus stock exchange commission.
▲Paid or payable in 1955; total paid in 1954 in brackets.
■Plus stock divd.

Commodities

	Latest Week	Previous week	Same week last yr.
Cattle	$19.25	$19.50	$19.50
Hogs	27.50	27.00	36.50
Copper, lb.	.36	.36	.30
Sugar, raw, lb.	.0550	.0553	.0565
Coffee, lb.	.58¾	.54	.86¾
Hides	.13	.12½	.15½
Weekly Commodity Indices			
Dow Jones	156.86	154.74	178.32
U. S. Labor	110.2	■110.0	110.0
Monthly Commodity Indices			
Canada (D.B.S.)			
Retail (May)†	116.4	116.1	115.5
W'sale (Apr.)	218.5	217.4	217.9
C. F'm Pro. (Apr.)	212.7	203.7	209.0
U. S. (Apr)	110.0	110.0	111.1
Gt. Brit. (Feb.)	337.9	■337.0	324.0

Note: †Cost-of-Living Index Revised to the Base of 1949=100.
■Revised.
Base of price quotations is as follows: Cattle-Steers, good up to 1,000 lb., to price Toronto, Copper-electrotype, New York, Coffee No. 4 Santos, Spot Raw Sugar 96 degrees centrifugal c.i.f.

Company Meetings

Date	Company	Place
Jun. 23	Int. Power Co. Ltd.	Montreal
Jun. 24	Coniaurum Mines	Toronto
Jun. 24	East Koot. Pwr.	Montreal
Jun. 24	Hi-Tower Drilling	Calgary
Jun. 24	Keymet Mines	Toronto
Jun. 27	Chateau-Gai Wines	Stamford Twp.
Jun. 27	Que. Labrador Dev.	Montreal
Jun. 28	Ajax Pet. Ltd.	Toronto
Jun. 28	Brazil. Tr. Lt. & Pwr.	Toronto
Jun. 28	T. G. Bright Co.	Stamford Twp.
Jun. 28	Can. F'dry. & Forg.	Brockville
Jun. 28	Hoyle Mining	Toronto
Jun. 28	Thrift Stores Ltd.	Outremont, P.Q.
Jun. 28	Union Gas Co. of Can.	Chatham, Ont.
Jun. 29	Cdn. Atlantic Oil	Calgary
Jun. 29	Goldhawk M.	Toronto
Jun. 29	Mexican Lt. & Pwr.	Toronto
Jun. 29	Pacific Pet.	Calgary
Jun. 29	Paramaque Mines	Toronto
Jun. 29	Sand River G.M.	Toronto
Jun. 30	Brunston Mining Co.	Toronto
Jul. 7	Wabasso Cotton Ltd.	Three Rivers, P.Q.

Municipal Bonds

June 21, 1955

	Coup. %	Matur.	Bid. $	Ask. $	Yld. %
Calgary	3½	'69	99	100	3.50
Edmonton	3½	'69	96½	98½	3.80
Halifax	3½	'66	95½	97½	3.75
Hamilton	3	'67	95	96	3.40
Montreal	3	'70	90	92	3.65
Moose Jaw	3½	'60	99	100	3.50
Ottawa	3¼	'68	98½	100½	3.20
Regina	3	'64	92½	94½	3.60
S. J'hn N.B	3½	65	95½	97½	3.80
Toronto	3	'68	96½	97½	3.25
Vancouver	3¾	'69	99	102	3.75
Victoria	3¾	'68	98	101	3.66
Windsor	2¾	'75	77	79	4.25
Windsor	2½	'75	73½	75½	4.25
Windsor	3½	'75	87½	89½	4.25
Winnipeg	3	'69	93⅞	95⅞	3.40

Bond Redemptions

Bond issues	Rate	Year	Date	Cal. Pr.
**Atlas Steels Ltd., conv. debs.	5%	'67	Jul. 5	$100.00
●●Atlas Steels Lts., 1st mtge. s.f. bds.	4½%	'66	Jul. 5	$100.00
▲▲Can. Foils Ltd., 1st mtge. s.f bds.	5%	'72	Jun. 30	$101.375
*Dom. Magnesium Ltd., conv. bds.	5%	'62	Jul. 21	$102.00
●Dom. Stores Ltd. s.f. deb. ser. A	5%	'72	Jun. 30	$101.50
■■Interprov. Pipe Line Co., 1st mtge. & coll. tr. bds. ser. B	3½%	'70	Jul. 1	$101.41
♦♦Massey-Harris-Ferg. Ltd., 15 yr. s.f. debs.	5%	'67	Jul. 1	$101.00

*All outstanding. **$107,000. ●$210,000. ●●$249,000. ■■$583,000. ▲▲$70,000. ♦♦$339,000.

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MARKET COMMENT

The informed opinion of men experienced in market analysis is given regularly in this investment feature. For profit add their viewpoint to yours. You get them in

THE FINANCIAL POST

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DIVIDEND NOTICES

THE CANADIAN BANK OF COMMERCE

DIVIDEND NO. 274

NOTICE is hereby given that a dividend at the rate of thirty cents per fully-paid share on the outstanding Capital Stock of this Bank has been declared for the quarter ending July 31, 1955, payable at the Bank and its branches on August 1, 1955, to shareholders of record at the close of business on June 30, 1955.

Subscribers to new shares are reminded that they will rank for this dividend only in the proportion that the amount paid upon such new shares at the record date of June 30, 1955, bears to the subscription price of $27.

By Order of the Board.

N. J. McKINNON,
General Manager.

Toronto, May 27, 1955.

THE BANK OF NOVA SCOTIA

DIVIDEND NO. 343

Notice is hereby given that a Dividend of forty-five cents per share on the paid-up Capital Stock of this Bank has been declared for the current quarter to shareholders of record of June 30th, 1955, and that the same will be payable on and after Monday, the first day of August, 1955, at any of the offices of the Bank in Canada.

By order of the Board.

F. W. NICKS,
General Manager.

Halifax, N.S., June 14th, 1955.

CANADIAN PACIFIC RAILWAY COMPANY

DIVIDEND NOTICE

At a meeting of the Board of Directors held today a dividend of seventy-five cents per share on the Ordinary Capital Stock was declared in respect of the year 1955, payable in Canadian funds on August 1, 1955, to shareholders of record at 3.30 p.m. on June 23, 1955.

By order of the Board.

FREDERICK BRAMLEY,
Secretary.

Montreal, June 13, 1955.

ENAMEL & HEATING Products Limited

DIVIDEND NOTICE

Notice is hereby given that a Dividend of 10c per share has been declared on the issued and outstanding capital stock of the Company, payable on Saturday, July 30, 1955, to shareholders of record at the close of business June 30, 1955. This dividend is payable on Common Stock as presently constituted after subdivision in accordance with supplementary letters patent (4 new shares for one old) dated July 9, 1951.

By Order of the Board of Directors.

A. R. FRENCH,
Secretary-Treasurer.

SACKVILLE, N.B.
June 15, 1955.

WOOD ALEXANDER LIMITED

Notice is hereby given that a regular quarterly dividend of 1½% per share has been declared on the 6% Cumulative Redeemable Sinking Fund Preference Shares, payable on July 2nd, 1955, to shareholders of record as to close of business June 17th, 1955.

By Order of the Board.

J. I. WHITFORD,
Secretary-Treasurer.

N. SLATER COMPANY LIMITED
HAMILTON - CANADA

DIVIDEND NOTICE

NOTICE IS HEREBY GIVEN that a dividend of .53c per share has been declared on the outstanding Preferred Stock of the Company, payable July 15th, 1955, to shareholders of record at the close of business on June 30th, 1955.

NOTICE IS HEREBY GIVEN, ALSO, that a quarterly dividend of .15c per share has been declared on the outstanding Common Shares of the Company, payable August 1st, 1955, to shareholders of record at the close of business on July 15th, 1955.

By Order of the Board.

E. GARSIDE,
Secretary.

VENTURES LIMITED

DIVIDEND NO 36

NOTICE IS HEREBY GIVEN that a dividend of Fifteen Cents (15c) per share has been declared by the Directors of Ventures Limited, payable in Canadian funds on July 15th, 1955, to shareholders of record at the close of business on June 30th, 1955.

By Order of the Board.

G. T. N. WOODROOFFE,
Secretary.

Toronto, Ontario,
June 16th, 1955.

SUPERTEST

PETROLEUM CORPORATION LIMITED

NOTICE OF DIVIDENDS

5% Preference Shares

A quarterly dividend of $1.25 per share upon the outstanding 5% cumulative redeemable sinking fund preference shares of the par value of $100 each in the capital stock of the Corporation has been declared, payable July 15th, 1955, to shareholders of record at the close of business June 23rd, 1955, such dividend being at the rate of 5% per annum for the period from April 15th, 1955 to July 15th, 1955.

Common And Ordinary

A half-yearly dividend of 40 cents per share has been declared on the Common and Ordinary shares of the Corporation for the half-year ending June 30th, 1955, payable July 15th, 1955, to shareholders of record at the close of business June 23rd, 1955.

By Order of the Board,

C. C. COPEMAN,
Secretary.

London, Ontario,
June 13th, 1955.

GENERAL PRODUCTS

MFG. CORPORATION LIMITED

DIVIDEND NOTICE

Notice is hereby given that a stock dividend at the rate of one share of 3% non-cumulative redeemable Second Preference Stock having a par value of $1.00 per share for each Class "A" and/or Class "B" share of the Company has been declared payable July 14th, 1955, to holders of Class "A" and Class "B" shares of the Company on record at the close of business June 30, 1955.

By order of the Board,

D. G. WALLACE,
Secretary-Treasurer.

London, Ontario,
June 14th, 1955.

Hike Rates 10% In Autumn On Grain Hauls Within West

MONTREAL (Staff) — Freight rates on grain and grain products moving within Western Canada will be increased by 10%, likely this fall, railway sources said here.

The Board of Transport Commissioners in Ottawa plans an initial hike of 10% on these products which yield the railways $8 to $9 millions annually on the 35 million bushel traffic. A subsequent increase of another 10% will be made within one or two years.

It will boost rail revenues by about $800,000 annually and bring traffic rates in the West closer to those in the East. However, eastern rates are substantially higher.

The proposed rates are on domestic grain moving locally within Western Canada. They do not touch the major part of the Canadian grain traffic which moves under the statutory Crow's Nest freight rates covering everything going east of Fort William including export grain. Nor do they touch export rates to Vancouver.

They would affect traffic for domestic purposes in Vancouver. Traffic affected also involves grain and grain products going into plants for milling into flour and other articles, as well as feed and seed grains bought by farmers in the West. The traffic includes such products as wheat, oats, barley, rye, flour, mill feed oil cake meal.

For traffic of 100 lb. going 200 miles, western rate is 30c compared with 35c in the East; going 300 miles, 36c against 43c; 400 miles, 42c against 49c.

Largest amount of the increase would be paid by millers who might pass some of the increase on to consumers. Seed grain buyers might also be affected.

The railways' application to the board was made in 1952 when they sought to bring western domestic rates up to the general level of eastern rates by asking about a 57% increase. The board decided this amount was too high in one hike. It did allow a 25% increase, effective November, 1952.

The East-West disparity arose in part through the influence of the Crow's Nest rates and because the board did not allow any increase on domestic grain rates in Western Canada in the earlier post-World War II general increases. The board increased general freight rates on grain movements in the East while exempting that in the West. It subsequently removed the hold-down and applied it to hauls and grain products in the West.

COMPANY REPORTS

Food

NATIONAL GROCERS CO., net profit increased by 16.4% to $571,377 in the year ended April 2, 1955, from $490,785 for the 53 weeks ended April 3, 1954.

Sales increased substantially over last year's former record level, reports H. L. McNally, president. However, higher expenses — particularly labor costs — offset much of the advantage gained in improved volume.

Aggressive expansion of the Red & White Stores is proceeding satisfactorily and is well ahead of the planned program.

Since dividends on preferred and common, ordinarily paid on July 2, were paid this year on May 16, no declaration of dividends will be made payable July 2, Mr. McNally says.

INCOME ACCOUNT

Years Ended:	Apr. 2 1955	Apr. 3 1954
Net earnings	$1,379,618	$1,284,083
Less: Deprec.	230,955	290,135
Int. (net)	21,286	8,545
Inc. tax res.	506,000	494,618
Net profit	571,377	490,785
Less: Pref. divds.	213,435	213,866
Common divds.	177,511	295,852
Surplus for year	180,431	▲18,933
53 weeks.		
▲Deficit.		
Earnings per Share and Dividend Record:		
Pref.: Earned	$4.02	$3.45
Paid	1.50	1.50
Com.: Earned	1.21	0.94
Paid	0.60	0.60+0.40

CONDENSED BALANCE SHEET

As at:	Apr. 2 1955	Apr. 3 1954
Cash	$209,988	$204,795
Accts. rec., etc.	2,828,126	2,852,446
Inventories	6,899,462	5,585,643
Total curr. assets	9,937,576	8,642,884
Prepd. exp.▲	84,350	54,531
Accts. rec. subj. to repay. terms	449,559	
Fixed assets†	2,475,344	2,519,872
Total assets	12,943,829	11,217,287
Bk. overdrafts	565,002	
Accts. & taxes pay.	3,238,096	3,280,171
Total curr. liab.	3,803,098	3,280,171
Invent. res.	1,026,038	
Conting. res.	250,000	250,000
Capital stock	3,141,652	3,143,652
Surplus	4,723,041	4,543,464
†After depr. of	2,336,136	2,436,781
▲Incl. in curr. assets in co's report.		
Working capital	6,134,478	5,362,713

Grain Prices

Chicago Futures

Week to June 20, 1955

Crop year from Aug. 1, 1954 High	Low		High for week	Low for week	Close June 20
Wheat—					
2.18⅜	1.91⅞	July	2.01⅜	1.96¼	1.97¼
2.20¼	1.93⅛	Sept.	2.02⅝	1.97¼	1.98⅛
2.21⅛	1.96⅛	Dec.	2.05⅛	2.00¼	2.00⅝
2.07⅛	1.96⅛	Mar.	2.02⅛	1.96⅛	1.98⅛
1.99⅛	1.92⅛	May	1.97¼	1.92¼	1.92⅝
Corn—					
1.66⅛	1.40⅛	July	1.43⅛	1.41¼	1.42⅛
1.61	1.39¼	Sept.	1.41¼	1.40	1.41⅛
1.49⅛	1.32⅛	Dec.	1.34	1.32⅛	1.33⅛
1.43⅛	1.35⅛	Mar.	1.37⅛	1.35⅛	1.36⅛
Oats—					
.77⅛	.63⅛	July	.67⅛	.65⅛	.65⅛
.72⅛	.64⅛	Sept.	.66¼	.65¼	.65⅛
.71⅛	.66⅛	Dec.	.68¼	.67⅛	.67⅛
.73¼	.62⅛	Mar.	.70¼	.69⅛	.69⅛
Rye—					
1.46	.98⅛	July	1.07⅛	1.02	1.03
1.30	1.01	Sept.	1.10⅛	1.04⅛	1.05⅞
1.15⅛	1.04⅛	Dec.	1.14	1.08	1.09⅛
1.18	1.11⅛	Mar.	1.17	1.11⅛	1.12⅛
Soybeans—(old contracts)					
July			2.43	2.41¼	2.43⅛
Sept.			2.33⅛	2.31⅛	2.32⅛
Nov.			2.32	2.29⅞	2.30⅛
Jan.			2.35¼	2.32⅛	2.33⅛
Soybeans—(new contracts)					
Sept.			2.35⅛	2.34	2.35
Nov.			2.34⅛	2.32¼	2.33⅛
Jan.			2.36⅛	2.35	2.36
March			2.38	2.36	2.37

Chicago Cash

	For Week June 20 High	Low	Prev. week High	Low
Corn—				
2 Yell. (new)	1.50¼	1.48	1.49	1.48⅛
Oats—				
1 H. W.	.77⅛	.76	.79¼	.78

Winnipeg Futures

Week to June 20, 1955

Crop year from Aug. 1, 1954 High	Low		High for week	Low for week	Close June 20
Oats—					
.83⅛	.70	July	.82⅝	.70	.80⅛
.79	.69⅞	Oct.	.76⅛	.74	.74⅛
.74⅛	.70	Dec.	.72⅛	.70	.70⅛
Barley—					
1.17⅞	.98⅛	July	1.06⅛	1.04⅞	1.05⅛
1.12⅛	.94⅛	Oct.	1.02⅛	1.00⅛	1.01⅛
.98⅛	.93⅞	Dec.	.98⅛	.96⅛	.97⅛
Rye—					
1.40	.98⅛	July	1.03⅛	.98⅛	1.00⅛
1.23⅛	1.00	Oct.	1.06	1.01	1.02⅛
1.10⅛	1.06⅛	Dec.	1.07⅛	1.02	1.03⅛
Flax—					
3.58⅛	2.56⅛	July	3.47⅛	3.41	3.45⅛
3.30⅛	2.75	Oct.	3.18⅛	3.12	3.13⅛
3.11	2.90	Dec.	3.00	2.96⅛	2.97

Winnipeg Cash

	For Week June 20 High	Low	Prev. week High	Low
Oats—				
2 C. W.	.88⅛	.86	.91¼	.90⅛
3 C. W.	.84⅛	.82	.86¼	.85⅛
Barley—				
1 Feed	1.04⅛	1.04⅛	1.04⅛	1.03⅛
2 Feed	1.04⅛	1.03⅛	1.03⅛	1.03⅛
1 Malt	1.17⅛	1.16⅛	1.16⅛	1.16
Rye—				
2 C. W.	1.06	.98⅛	1.03⅛	1.01⅛
1 C. W.	1.01	.98⅛	1.03⅛	1.01⅛

West Germans May Bid for Air Link

OTTAWA (Staff)—Look for the newly independent Federal Republic of Germany to inaugurate a permanent trans-Atlantic air service in the near future.

This week the first Super Constellation of the German national airline, Lufthansa, landed in Montreal. It was flying under temporary charter to Cunard Steamship Lines to eliminate some of the pressure caused by the U. K. shipping strike. Earlier this month, the Germans inaugurated a service linking Hamburg and New York.

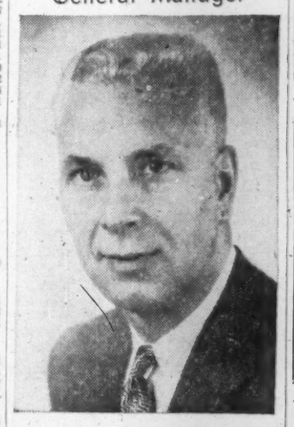
Reason for speculation about German entry into Canada is that Trans-Canada Air Lines will soon have to negotiate a new agreement with Germany. It has been carrying on its successful service to Dusseldorf under the terms granted to the occupying powers which are now to become obsolete.

West Germany was recently admitted into the International Civil Aviation Organization and the International Air Transport Association. This leaves the way clear for a bilateral agreement to be signed between Germany and Canada providing for reciprocal flight route rights.

The newly formed German airline now has only four Super Constellations in its trans-Atlantic runs, but it is expanding rapidly and will be acquiring more aircraft this year. Before 1939 Lufthansa was one of the world's largest airlines with 120 carriers. In its rebirth air cargo may play an important role. A meeting of former leading aircraft manufacturers in Germany decided among other things last spring that Germany was well behind in aeronautical advances and therefore might advantageously come up with a possibly ugly but practical cheap air cargo workhorse.

ANNOUNCEMENT

General Manager



DAVID CLARK, who has been appointed general manager and a director of **Morgan, Kempf & Co Ltd.**, investment dealers, and made a partner of **Morgan & Co.**, stock brokers.

Mr. Clark, who is also vice-president of Abitca Lumber & Timber Corp. Ltd., during the past 10 years was controller of the woods department of Howard Smith Paper Mills Ltd. During the Second World War, he served with distinction with the Royal Canadian Navy, retiring with the rank of lieutenant-commander.

Prior to the war, Mr. Clark was for seven years with the investment banking firm of Aldred & Co. Ltd., holding the post of chief accountant, and for two years subsequently was a customers' man with Garneau & Ostiguy, stock brokers.

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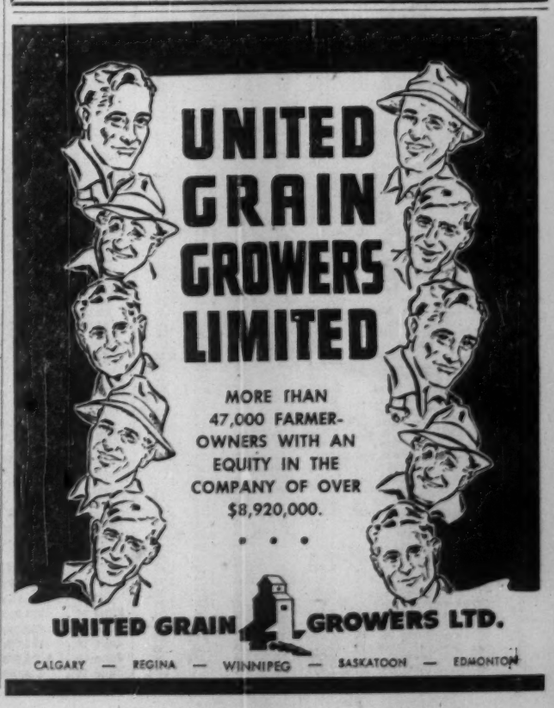


A New Uranium Mine-in-the-making in the Bancroft area

CANADIAN ALL-METALS EXPLORATIONS
LIMITED

ESTABLISHED OREBODY

- Uranium orebody established by thirteen diamond drill holes for a length of 650 ft. and average width of 6.0 ft., to at least 167 ft. depth.

CONTRACT LET FOR 1,000 FEET OF TUNNEL AND CROSS-CUTTING

- The Main Ore Zone has been exposed by trenching and blasting for a length of at least 2,200 ft. and 24 diamond drill holes, totalling over 5,000 ft., have been completed to date. **Chemical assays** have been received on the first 13 holes completed and these show remarkable continuity in U3O8 values, ranging from 0.09% to 0.29%, and averaging 0.18%, or $26.10 per ton, uranium oxide valued at $7.25 per pound.
- The total strike length covered by these first 13 holes is 650 ft., and the intersections show an average true width 6.0 ft., the deepest intersections being 167 ft. in hole No. 12. The dip of the vein has been established at 56 degrees to the southeast.
- A contract has been let on very favourable terms for 1,000 ft. of underground work, to include a 500 ft. adit tunnel and 500 ft. of drifting.
- The uranium bearing mineral has been positively identified as uraninite and preliminary tests on a bulk sample being run at the laboratory of Nu-Matic Mills Limited have proved very satisfactory.

CAPITALIZATION

Authorized ($1 par value)	4,000,000 shares
Issued (720,000 shares in escrow)	1,657,155 shares
Remaining in treasury	2,342,845 shares

The Company has received approximately $100,000 from sale of its shares, which is more than ample to complete the presently planned programme of underground work and diamond drilling.

SPECIAL MESSAGE TO UNREGISTERED SHAREHOLDERS

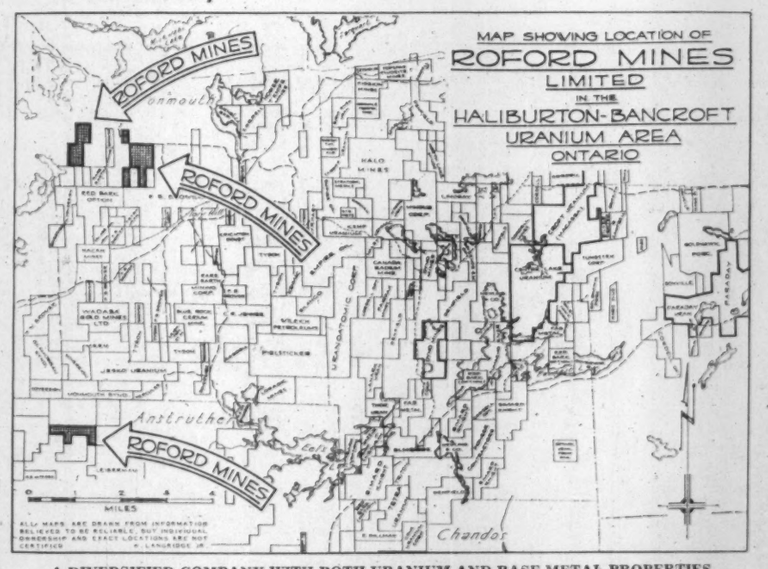
In order to receive future progress reports direct from the Company, shareholders should examine their certificates, and, if in street form, should mail them to the Guaranty Trust Company of Canada, 70 Richmond Street West, Toronto, Ontario, for transfer into their own names.

THE SHARES ARE ACTIVELY TRADED IN THE UNLISTED MARKET.

Shareholders are cordially invited to visit the Company's property to witness the work in progress. Travel Route No. 35 to Tory Hill, Ontario, via Lindsay.

CANADIAN ALL-METALS EXPLORATIONS
LIMITED
Executive Office: 199 Bay Street, Toronto, Canada
Telephone: EMpire 3-8463

First Public Offering, 100,000 shares at 40c per share, net to the treasury.



A DIVERSIFIED COMPANY WITH BOTH URANIUM AND BASE METAL PROPERTIES.

URANIUM PROPERTIES situated in the booming Bancroft Area in close proximity to Blue Rock and Rare Earth Mines. Exploration to date on the main group consisting of Geiger survey followed by trenching and sampling has indicated two parallel, north and south zones, approximately 10 to 20 feet wide each and about 3,000 feet long. Gross fractures, east and west, through zones give Geiger readings up to several hundred times background. Grab samples taken along the main zone have assayed .07, .4 and .75 U_3O_8 chemical. Within the last few days bulldozing has uncovered a trench approximately twelve feet wide from which grab samples ran 1.69 per cent and 1.78 per cent U_3O_8. The significance of these in relation to the known radio-active zones is yet to be determined. Further bulldozing and systematic trenching is underway prior to diamond drilling.

BASE METAL PROPERTY. The Base Metal Property in the Normetal Area has been optioned to The Mining Corporation of Canada Limited who are presently conducting an exploration campaign with a view towards finding a mineable ore body and a producing mine. If the terms of the option are exercised, Mining Corporation will form a 3,000,000 share company of which Roford Mines is to receive 750,000 shares.

Transfer Agent: Guaranty Trust Co., Windsor, Ont.

Please accept my offer for.....shares of Roford Mines at 40c per share.

Please send further particulars of Roford Mines Ltd.

Name.....

Address.....

This is a speculative issue.

ROFORD MINES LIMITED 1471 Tecumseh Rd. E., Windsor, Ontario.

What Future for Golds? Many Managements Now Shifting Emphasis to Greener Fields

What's the future for gold stocks?

It's now about 15 years since the gold mines started to experience difficulties because of World War II. The troubles weren't too difficult to start with. And the postwar period looked like a favorable new era for gold mining.

But gold mining has since experienced so lengthy a succession of difficulties that the surprising thing is that gold mining continues as a going concern.

First of all, prices of most products gold mines buy doubled because of World War II and Korean war inflations. But the price of gold in U.S. funds, at $35 an ounce, remained unchanged, even went down in our funds when the Canadian dollar started selling at a premium. The average mint gold price of $34.11 in 1954 was the lowest since 1933.

Gold mines have done wonders. Sharply rising costs have been offset by increased mechanization and by treatment of larger tonnages of ore in some instances. Despite closure of numerous gold mines, Canadian gold output at $148.7 millions in 1954 was little more than 25% below record levels.

The fact that gold mining has remained intact — and settlement in the north has not been disrupted — can, of course, be attributed in large part to the working of the Emergency Gold Mining Assistance Act which was first introduced in 1948. Payments provided by the Federal Government have been largely designed to keep marginal gold mines in operation

Cost-aid payments in 1954 were approximately $16.5 millions equal to $4.30 an ounce on gold produced. Owing to the lack of any worthwhile premium on the free gold market, all straight gold mines in Canada were on cost-aid in 1954.

Challenge For Future

It is obvious at this point that gold mining faces a challenging future. Cost-aid in 1955 is on a modified basis and payments this year to gold mines will only be about $11 millions. Ability of more profitable companies to distribute dividends is being severely challenged.

In the face of these circumstances — and no significant signs of a higher price for gold — it is hardly surprising that many gold mining managements are reviewing past policies. Concentration of effort on keeping costs low and hoping for something better hasn't been enough, it is now realized.

More and more gold mining companies are coming to the conclusion that aggressive exploration for other more profitable minerals is an essential policy if the future of a gold mining company is to be assured. The know-how of the gold mines, their worthwhile resources of liquid assets, and financial connections, have in a number of instances already worked out to the advantage of company managements.

The extent to which gold mining companies are seeking new opportunities is becoming more impressive almost daily.

A look at big producers of the Porcupine and Kirkland Lake camps shows the extent to which the new trend has set in.

Preston East Dome controls Algom, Canada's biggest uranium operation.

Hollinger Consolidated has headed up the placing in production of Iron Ore Co. of Canada and is interested in the search for base metal ore bodies through Holannah Mines.

Dome has established other gold producers in Campbell and Sigma, has a base metal producer in Mindamar, interests in Western Canada oil and has recently taken a large interest in a U.S. copper company

McIntyre Porcupine has yet to produce any metals except gold (and silver through Castle-Trethewy) but a most enviable investment portfolio has been built up. The company could probably maintain dividends without gold mine earnings.

Broulan Reef is taking a very active interest in developing copper properties in the Chibougamau area and has also been exploring the Kamiskotia base metal area west of Porcupine.

Hallnor is participating in financing Geco Mines as is Aunor.

A similar picture is presented in Kirkland Lake

Macassa Mines has a large interest in Bicroft Uranium Mines which is expected to be the first producer in the Bancroft camp.

Teck-Hughes has been carrying on a greatly expanded search for base metals in the Tashota area and elsewhere.

Lake Shore and Sylvanite are finding their investment in Oil Operators a satisfactory one. Sylvanite also has a copper bet in the Sault Ste. Marie district.

All the other producers in the area have an intensified program for investigation of other minerals than gold.

It is quite possible that even a majority of present producing gold mines may eventually find a new prosperity in other metals. But there is a huge investment in gold mining facilities in Canada and the companies are naturally not going to let the gold mining end of their business disappear without a fight. It appears that gold mining is still the only answer to the continued well-being of several sections of our north country.

To Equip Canam Copper With Mill of 1,000-ton Capacity

From Our Own Correspondent

VANCOUVER — Canam Copper Co.'s mine and mill near Hope, 120 miles east of Vancouver, will go into production this year following a multi-million financing deal with Toronto interests.

Initial capacity of the copper mine's mill will be 1,000 tons but officials eventually hope to boost it to 2,500 tons daily.

Canam owns 74 claims east of Hope and has done $1 million development work since it purchased the property 10 years ago from Consolidated Mining & Smelting. Cominco still has a large interest in the property.

With announcement of the deal, Canam's shares were listed on the Vancouver Stock Exchange.

Under the financing arrangement, Draper Dobie and Co., Toronto, through its holding company, Mogul Mining Corp. will take up 750,000 shares of stock at 40c each which will provide $300,000 to provide finances for a start on the mill.

Elmer Doyle of Vancouver remains as president and S. A. Perry and G. D. Pattison, both of Toronto, will represent Dobie's interests on the board of directors.

H. D. Foreman has been appointed managing director. Other member of the board is J. B. Whitlaw, Vancouver.

SERVICE FOR N. S. PROSPECTORS

Ten modern diamond drills — a mobile mining plant — technical personnel all available to companies developing and exploring mineral resources of Nova Scotia. Write Dept. of Mines, Halifax, N.S.

Company Reports

To assist readers in appraising and comparing company financial statements, The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Mining

PICKLE CROW GOLD MINES reports a net profit of $282,181 for 1954 ($262,022, previous year). Average price received for gold was $34.22, a drop of 29c an ounce from previous year. Cost aid is estimated to amount to $2.73 per ounce, making a return of $36.95 in all ($37.22 last year).

Despite a considerable increase in amount spent on development, over-all costs show a reduction of $1.50 a ton. Ore reserves have been well maintained at 475,304 tons (475,391 tons at end of 1953).

INCOME ACCOUNT		
Years Ended Dec. 31:	1954	1953
Bullion prod.	$1,594,454	$1,453,117
Less: Mkig., etc.	.....	13,699
Net output	1,594,454	1,439,418
Less: Oper. exps.	1,349,212	1,193,567
Oper. profit	245,242	245,851
Add: Sundry rev.	27,093	27,065
Est. Cost-Aid	127,769	114,522
Total earnings	400,104	385,378
Less: Deprec.	37,261	44,484
Prov. for taxes	82,474	79,894
Add: Prof. on sale of assets	1,752	1,012
Net profit	282,181	262,022
Less: Divds.	313,685	313,685
Deficit for year	31,504	51,663
Earned per Share	$0.09	$0.08
Paid	0.10	0.10

CONDENSED BALANCE SHEET		
As at Dec. 31:	1954	1953
Cash & bullion	$308,669	$289,428
Govt. bonds*	472,000	472,000
Accts., etc., rec.	9,480	16,884
Est. Cost-Aid	62,504	109,087
Mkt. securities†	243,413	240,457
Recov. exp.	7,214	7,254
Inc. tax recov.	.....	24,455
Mat. & supplies	333,533	395,449
Total curr. assets	1,456,813	1,555,014
Dep. re pwr. cont.	28,000	28,000
Prep. & def. chgs.	15,164	26,376
Sus., etc., oth. cos.	24,747	36,658
Mining claims	2,122,306	1,813,498
Plant & equip‡	86,802	103,796
Total assets	3,733,832	3,563,344
Accts., etc., pay.	101,476	85,187
Reserve for taxes	57,083	12,200
Total curr. liab.	158,559	97,387
Capital stock	2,647,400	2,647,400
Surplus	927,873	818,557
▲After dept. of	1,965,843	1,926,743
*Market value	476,200	445,900
†Market value	361,300	257,300
Working capital	1,298,254	1,457,627

OPERATING STATISTICS		
	1954	1953
Tons milled	111,677	90,656
Aver. recovery	$14.28	$16.14
Ore reserves, tons	475,304	475,391
Grade ($35 gold)	$12.85	$12.37

Lumber

BEAVER LUMBER CO., Winnipeg, consolidated net profit slipped 23.3% in the year ended April 30, 1955 at $1,586,963 from $2,068,885 in the previous year.

Sales in the prairie provinces were down because of adverse agricultural conditions. Depressed conditions in several major eastern industries and a spring frost also helped cut business. Competition continues keen, resulting in a narrowing of the gross mark-up on sales and increasing relative costs, R. J. Gourley, president, states.

An increase of $635,286 in accounts receivable is the result of a trend to slower payment of accounts and to building loans financed through Beaver Lumber Acceptance Corp.

Annual and special meeting in Winnipeg June 21 will consider a bylaw reducing capital by canceling 10,450 preferred shares $1.40 series, $20 par which have been purchased for cancelation.

CONS. INCOME ACCOUNT		
Years Ended Apr. 30:	1955	1954
Net earnings	$3,745,773	$4,552,528
Less: Depr.	560,532	577,527
Income tax	1,584,673	1,895,776
Min. sh'holders	13,605	10,340
Net profit	1,586,963	2,068,885
Less: Pref. divd.	83,055	90,370
Cl. A divd.	76,369	76,369
Common divd.	626,952	470,214
Surplus for year	798,587	1,429,932
▲Not consolidated.		
Earnings per Share and Dividend Record:		
Pref.: Earned	$24.39	$32.05
Paid	1.40	1.40
Cl. A: Earned	19.19	25.25
Paid	1.00	1.00
Com. (new): Earned	1.82	...
Paid	0.40	...
Com. (old): Earned	.....	12.12
Paid	1.50+0.50	3.00

CONDENSED CONS. BALANCE SHEET		
As at Apr. 30:	1955	1954
Cash	$405,681	$422,247
Deposit receipts	1,950,000	.....
Mkt. secs.†	143,722	144,474
Short-term notes & Dom. bds.	1,000,000	▲2,165,848
Accts. rec.‡	3,752,824	3,193,562
Deposits, etc.	69,132	67,830
Inventories	9,083,527	9,625,977
Total curr. assets	16,404,886	15,619,938
Fixed assets*	4,519,163	4,123,959
Total assets	20,924,049	19,743,897
Bank loan	439,000	.....
Accts., etc., pay.	1,238,210	1,350,879
Total curr. liabs.	1,677,210	1,356,879
Reserves	2,105,000	2,105,000
Min. equity	230,936	296,569
Capital stock	2,897,750	2,897,750
Earned surplus	14,013,153	13,183,699
▲Par value	.....	2,200,000
†Mkt. value	188,000	160,000
*After depr. of	4,772,097	4,252,613
‡After res. of	644,463	568,439
Working capital	14,727,676	14,269,059

Petroleum

PACIFIC PETROLEUMS LTD. operations for the fiscal year ended Feb. 28, 1955, resulted in a net loss of $277,548 after heavy write-offs for exploration and development of $671,623. (Showed a net loss of $597,823 in previous year after write-offs of $1,539,766).

Among highlights of a very important year in company's operations were:

—Agreements signed by Westcoast Transmission Co. for marketing of Peace River natural gas reserves in B. C. and U. S.

—Inauguration of a multi-million dollar exploration program, involving a portion of company's unexplored acreage, at no cost to Pacific.

—Continuation of a good discovery rate, which includes the finding of five new natural gas fields, extension of several others and two new promising oil discoveries.

During past year substantial expenditures made on Pacific's own exploration program resulted in reduction of company's earned surplus by $277,548. Pacific now has an interest in more than 7,459,346 gross acres in Western Canada. Within last four years several trillion cu. ft. of gas have been proven up on only a small portion of this acreage. There has been a substantial gain in worth of securities owned by the company, which exceeds book value by $10.6 millions.

During the next 18 months, Pacific Petroleums and associates plan to drill some 70 development wells and to construct absorption plants and processing facilities in the fields. Arrangements now under way for necessary financing of this development program will not dilute the equity share capital of the company.

INCOME ACCOUNT		
Years End. Feb. 28:	1955	1954
Net inc. from wells	$880,202	$836,431
Add: Invest. inc.	4,323	2,061
Gov't credits	176,922	488,872
Prof., sale of f.a., etc.	652,355	1,295,585
Int. rec., etc.	26,697	33,548
Total net income	1,740,499	2,656,497
Less: Admin. & gen. exps. (net)	864,514	1,197,224
Interest	266,749	116,834
Prov. for doubt. accts.	.....	10,000
Leases & res. w/o	46,701	221,914
Net profit bef. w/o	562,535	1,110,525
Less: Depletion	168,460	168,582
Explor. & dev.	671,623	1,539,766
Net loss after w/o	277,548	597,823
Earned per Share: Before w/o	$0.13	$0.25
After w/o	d0.06	d0.13
None paid.		

CONDENSED BALANCE SHEET		
As at Feb. 28:	1955	1954
Cash	$2,979	$94,682
Mkt. secs.*	1,368,429	1,627,903
Accts., etc., rec., less res.	1,330,646	1,595,116
Inventories	584,323	814,471
Total curr. assets	3,336,377	4,132,172
Def. accts. rec.	2,169,133	1,472,302
Prep. chgs.	10,699	14,914
Invest. in subs.	2,728,088	2,674,916
Invest. after res.	384,718	392,656
Def. chgs.	134,712	632,604
Prop., plant & equip.‡	8,408,655	6,518,118
Total assets	17,172,382	15,837,682
Bank o/draft	72,451	.....
Bank loan (sec.)	5,100,000	4,250,000
Accts., etc., pay.	1,561,461	1,403,223
Total curr. liab.	6,733,912	5,653,223
Mortgage loan	1,182,054	654,808
Capital stock	4,457,563	4,456,863
Capital surplus	4,508,456	4,504,843
Surplus (▲After deprec. & depl. of	1,462,434	1,170,908
*Mkt. value	3,397,760	3,699,257
▲Incl. in curr. assets in co's report.		
Working capital	*3,397,535	*1,521,051
*Excess of curr. liab. over curr. assets.		

Contingent liabilities — Assumption of 4.25% of possible deficiency of Trans Mountain Oil Pipe Line Co.; guarantee of bank loan to Cascade Natural Gas Corp. to extent of 59.6% of $350,000—guarantee of undertaking of Westcoast Transmission Co. Ltd. and Westcoast Transmission Co. (Alberta) Ltd. to extend pipe line system of Grande Prairie Transmission Co. Ltd.; guarantee of bank loan to employee of $4,373.

Natural Gas Won't Halt Oil Demand

By 1960 Canada's consumption of oil and its products will rise to 800,000 barrels daily, J. G. Livingstone, manager of the coordination and economics department of Imperial Oil Co. Ltd., stated recently.

Speaking to the American Institute of Mining, Metallurgical and Petroleum Engineers at New York, he predicted an annual rate of increase in Canadian requirements of between 5% and 6%. Currently consumption is estimated at 615,000 b/d.

"By 1960," Mr. Livingstone said, "we anticipate that the demand for motor fuel will increase by an additional 30% and middle distillates by 40%. This rate of growth is expected to take place even with the introduction of natural gas into the Eastern Canadian heating market, it was said.

Big U.S. Firms Will Develop Oka Property

Boards of directors of Molybdenum Corp. of America and Kennecott Copper Corp. have announced development by the two companies of a columbium and tantalum deposit located at Oka near Montreal.

The arrangement includes an option on behalf of Kennecott to acquire a 51% interest in Molybdenum's rights in the Oka property. Kennecott also proposes to purchase for investment 50,000 shares of the common stock of Molybdenum.

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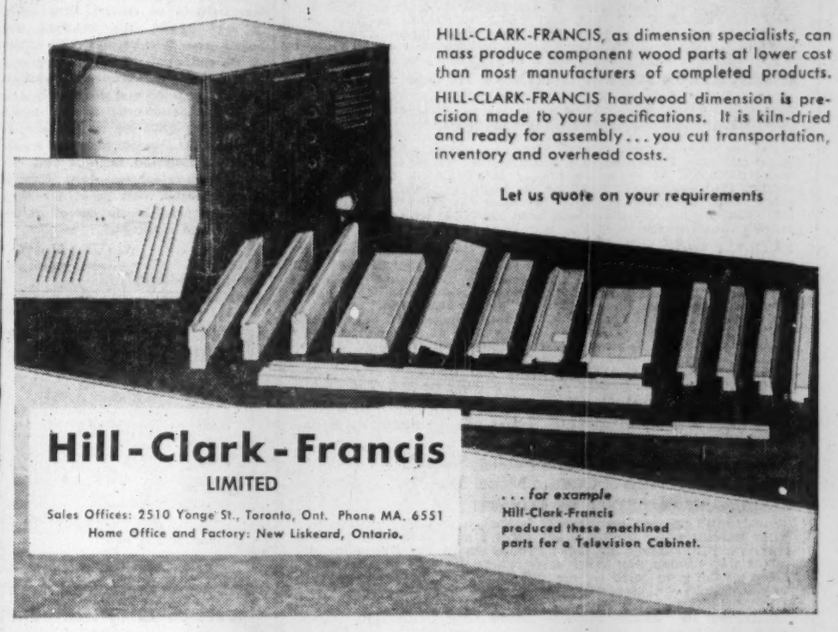

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... for example Hill-Clark-Francis produced these machined parts for a Television Cabinet.

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Chrysler New Yorker DeLuxe Four-Door Sedan

From the moment you feel the spirited engine surge to life, you enjoy a different and exhilarating sense of mastery in a Chrysler.

The mighty V-8 runs as quietly and smoothly as the precision machine it is. It obeys your command with such effortless ease at the slightest touch of your toe! PowerFlite automatic transmission, standard equipment on every Chrysler, makes your driving wonderfully convenient.

In this most luxurious of all Canadian cars, you ride in a regal manner. Your Chrysler is so low and broad, it skims over the road with a sure-footed poise that adds greatly to your comfort.

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Manufactured in Canada by Chrysler Corporation of Canada, Limited

Chrysler

SEE YOUR CHRYSLER-PLYMOUTH-FARGO DEALER NOW!

WHAT DID OSCAR C. BARTELLS SAY

In His Market Advisory Service About

MOGUL MINING? QUEBEC NICKEL?

EXTRACT FROM MARKET LETTER No. 711 (April 21, 1955)

"The sensation of the week has been MOGUL MINING—which jumped up to **$2.20.** This stock was recommended to you at the offering price of $1 and in Letter No. 704 as **my prime recommendation at $1.30.** The Company is issuing $3 million dollars in bonds, convertible into common stock at $1.50 and $2. Interest rate 1%. I hear it will have controlling interest in EASTERN METALS, QUEBEC NICKEL and YALE LEAD, in addition to owning 14 different and well chosen groups of claims in various Provinces. In my opinion the growth potentialities of MOGUL are tremendous and I recommend it most strongly to clients."

EXTRACT FROM MARKET LETTER No. 718 (June 9, 1955)

"Under these circumstances, the well managed, financed and alert holding companies offer a great deal of attraction. MOGUL MINING is a prime example of this. Strongly recommended at $1 and many times in the $1.30-40 area (Letters 704 etc.) this stock has advanced steadily to $3.20! In addition to previously listed holdings, I understand it has acquired shares in BICROFT and RAYROCK at attractive prices. MOGUL will finance and control the big Eastern Smelting & Refining plant for nickel-copper ores at Chicoutimi, Que. **In Letter No. 715 when MOGUL was $2.00, I said, 'By all means hold MOGUL—one of the best growth situations I have ever seen'."**

EXTRACT FROM MARKET LETTER No. 712 (April 28, 1955)

"QUEBEC NICKEL has been acting surprisingly well in view of the fact that the crosscut to the extensive 'B' orezone has not been completed yet. This stock has been recommended to you time and time again since Letter No. 696 at **$1.20,** and in Letter No. 699 I said, 'QUEBEC NICKEL is being groomed for big prices later—I think the stock is consolidating here at $1.20-5 in preparation **for a move to above $2. Definitely hold and buy.**' Since then, underground work on the 'G' orezone has proved that widths and values of nickel, copper and platinum ores were greatly in excess of previous diamond drilling results. The same condition is expected in the 'B' zone now being approached underground. This orezone is 2,700 ft. in length. Good developments here in the coming weeks would give **QUEBEC NICKEL major mine-making status."**

Recent Market Price of Mogul Mining Shares .... $3.30 !

Recent Market Price of Quebec Nickel Shares .... $2.65 !

RESULTS AS EXPRESSED BY CLIENTS:

"Words can't express how eagerly I await your Letter each week. Your Service so far surpasses any other I have ever had. I don't see how you manage all those 'scoops'—with the thousands of mines active today, you never know where the new 'field' is next. Keep up the good work for me and the thousands that subscribe to your 'News & Comment'."—Miami, Fla.

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OSCAR C. BARTELLS, B.Com., Securities Advisor,
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DIVIDEND NOTICES

GIANT YELLOWKNIFE GOLD MINES LIMITED

INTERIM DIVIDEND NO. 5

At the meeting of the Board of Directors of Giant Yellowknife Gold Mines Limited, held June 15, 1955, an interim dividend of fifteen cents a share was declared payable in Canadian funds on July 28, 1955, to shareholders of record June 28th. In arriving at this decision the Board took into account the effect of the reduction in the Emergency Gold Mining Assistance legislation recently enacted and the anticipated capital expenditures to be made totalling $750,000 for (1) the installation of the cyanide plant for treatment of flotation tailings and (2) for metallurgical research. This, it is anticipated, will point the way for a material improvement in recovery and earnings.

A. C. CALLOW,
Secretary.

Toronto, Ontario,
June 15, 1955.

ANGLO-CANADIAN TELEPHONE COMPANY

Preferred Dividend Notice

NOTICE is hereby given that a dividend of One and One-Eighth percent (1⅛%) has been declared on the 4½% Cumulative Preferred Stock of the Company for the quarter ending July 31, 1955, payable August 1, 1955 to Stockholders of record at the close of business on July 8, 1955.

By Order of the Board,
CAMERON HOUGH,
Secretary.

Montreal, June 10, 1955.

ANGLO-CANADIAN TELEPHONE COMPANY

Class A Dividend Notice

NOTICE is hereby given that a dividend of One and One-half percent (1½%) has been declared on the Class A Stock of the Company, payable September 1, 1955 to Stockholders of record at the close of business on August 10, 1955.

By Order of the Board,
CAMERON HOUGH,
Secretary.

Montreal, June 10, 1955.

Getting Ahead

Astute businessmen plan for success; they read The Financial Post because it helps them make right decisions. Yearly by mail in Canada, $6; elsewhere $7 yearly.

Will Chart Ungava Ports For Export of Iron Ore

OTTAWA (Staff) — The west coast of Ungava Bay will be charted this summer for safe, deep-water ports to be used in the export or iron ore from the Consolidated Fenimore Iron Co. deposits to Germany.

The survey will be carried out near Payne Bay, east of the Fenimore deposits by the "Algerine," a motor vessel chartered by the Dept. of Mines & Technical Surveys.

This hydrographic survey party will be one of 73 Government groups being sent into the field this season. Twenty of the parties will be working Arctic and sub-Artic regions.

These modern explorers will set up the framework for the mapping of Canada's northern areas, by determining the latitudes, longitudes and heights above sea level of selected points, and will obtain all the topographical data needed for the promotion of base maps.

Highlighting the program are two helicopter projects and a radar altimetry survey. The helicopter projects will be carried out over areas totaling 60,000 square miles in New Quebec-Labrador and along the Lower Mackenzie River in Northwest Territories. The radar altimetry survey will be carried out over the Ungava Peninsula to determine the heights of critical points in that area for use in the air navigation charts.

This year the Canadian Hydrographic Service will use a new method of determining the positions of soundings. It has equipped the CGS "Kapuskasing" with electronic devices whereby such positions may be accurately located when out of sight of land. The "Kapuskasing" will work in offshore areas south of Anticosti Island and if the season's operations prove successful other hydrographic ships will be similarly equipped.

As well as provincial boundaries, the mapmakers will make photo - topographical surveys, astronomic sightings and hydrographic studies. One expedition will continue the detailed charting of Rankin Inlet, on the northwest coast of Hudson Bay. It is hoped this search will uncover an economical shipping route into the Rankin Inlet nickel-copper development.

West coast tidal currents and Indian reservation boundaries are two of the many opics to be studied. The Canadian Hydrographic Service will continue its investigation of river and lake levels on the St. Lawrence-Great Lakes waterway.

Cons. Denison Will Increase Milling Rate

Consolidated Denison Mines could become the largest tonnage uranium proposition in the western hemisphere. Greatly expanded ore tonnage growing out of recent drilling has altered thinking on size of milling operation. Plans are now to boost milling to 5,000 tons-a-day rate.

Because the mill for larger operation would cost between $35-40 millions, as against earlier estimates of about $22 millions, plans are to increase company's capitalization to 6 million shares by the creation of a million $1 par shares. At a special meeting on June 30 shareholders will be asked to approve the capitalization hoist.

The original financing plans called for $22 millions to be raised through an $8 million bank loan and a $14 million bond issue. Each debenture would carry the right to purchase 30 shares of Consolidated Denison at $10 a share for each $1,000 bond held. The increase in authorized capital is necessary because there are only 550,000 shares left in the treasury and provision has to be made for rights to be issued with the additional debentures.

Some 14-15 million tons of ore have already been indicated with future drilling likely to increase the amount still further.

St. Lawrence River Shows Promising Columbium Values

Exploration results on the Oka, Quebec property of St. Lawrence River Mines are said to increase the property's mine-making possibilities. The property adjoins the Molybdenum-Kennecot holdings.

While assay results have been obtained on only a few holes, two ore zones opened up at both ends have been indicated by diamond drilling. The first zone in the southern part of the property has given assays of Cb205 up to 0.62% over 8.9 ft., 0.98% over 21.4 ft. and 1.75% over 4.3 ft. (under former Washington buying policy, 0.62% columbium represented $42 a ton.)

Assay results have been obtained on only part of hole No. 11 drilled on the northern ore zone. The core from this hole was mineralized over the whole length and assayed from 27 to 674 ft. It includes the following sections of Cb205: 0.51% over 50 ft., 0.52% over 28 ft., 0.57% over 49 ft., 0.67% over 50 ft., 0.68% over 33 ft., 0.65% over 16 ft., and 1.07% over 11.5 ft.

In the core of holes Nos. 13 and 15, located respectively 200 and 400 ft. north of hole No. 11, the columbium-bearing minerals are visible in each case over a length of 200 ft.

COMPANY REPORTS

To assist readers in appraising and comparing company financial statements, The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Mining

CANADIAN ADMIRAL OILS had a net profit of $3,641 in the fiscal year ended Feb. 28, 1955. Production capacity has been increased to an interest in 39 oil wells and four gas wells, with favorable prospects of further expansion of both gas and oil production.

A gas delivery contract has been signed with Westcoast Transmission Co. of company's reserves at Pouce Coupe, Alta. The most encouraging development in the oil picture took place at Jones County, Texas, where company succeeded in doubling production through a development program. Out of a total of nine wells drilled, three were not considered commercial, and another discovered a newly productive sand.

INCOME ACCOUNT

	Year ended Feb. 28 1955	9 mos. ended Nov. 30 1953
Net revenue	▲$49,877	$47,276
Add: Royalties recd.	†260	†354
Less: Royalties	▲	7,443
Deprec.	2,775	280
Well oper. exp., etc.	43,221	50,546
Net prof. & surp.	3,641	*10,639
†After cap. ret.	87	118

▲Unspecified royalties deducted from oil sales.
*Loss or deficit.

CONDENSED BALANCE SHEET

As at:	Feb. 28 1955	Nov. 30 1953
Cash	$91,370	$65,833
Accounts rec.	25,603	6,499
Total curr. assets	116,973	72,332
Drilling deposit	2,667	3,500
Adv. to subsids.	.....	114,822
Royalties at cost†	4,752	4,863
Invests. at cost	78,944	119,702
Prod. equip.*	40,475	1,516
Furn. fix. & equip.‡	228	73
Leases & reser.	590,479	510,319
Development, etc.▪	662,015	518,074
Reorg. expense	15,187	14,185
Total assets	1,511,730	1,359,586
Total curr. liabs.	4,609	821
Capital stock	1,476,685	1,379,185
Surplus	30,426	▲20,620
†After ret. of cap. of	4,308	4,197
*After depr. of	9,414	713
‡After depr. of	48	30
▪After recov. from prod. of	17,008	17,008

▲Deficit.
Working Capital 112,364 71,511

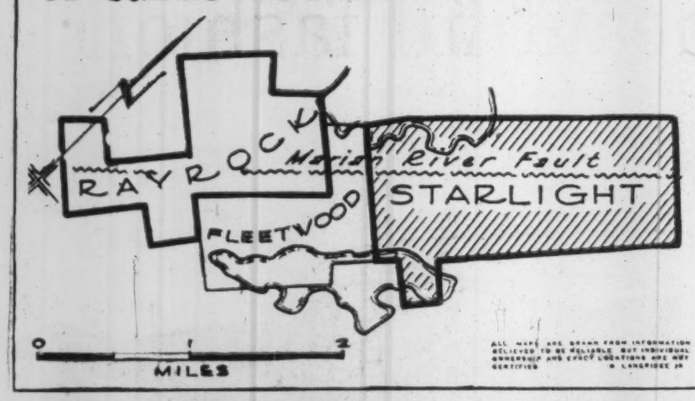
For the Information of Shareholders of

★ STARLIGHT ★

MINES LIMITED

MARIAN RIVER URANIUM AREA

22 CLAIMS NEIGHBOURING RAYROCK



ALL MAPS ARE DRAWN FROM INFORMATION BELIEVED TO BE RELIABLE, BUT INDIVIDUAL OWNERSHIP AND EXACT LOCATIONS ARE NOT CERTIFIED W. LANGRIDGE JR.

NOTE: CERTAIN OUTDATED MAPS ARE SHOWING A GROUP OF 12 CLAIMS ADJOINING STARLIGHT ON THE NORTHEAST AS "T. & L. SYNDICATE." THESE CLAIMS ACTUALLY COMPRISE PART OF STARLIGHT'S 22 CLAIMS, HAVING BEEN PURCHASED IN NOVEMBER, 1954.

It will be noted that:

1. **Starlight's property is only one claim removed from RAYROCK —APPROX. 1,300 FEET.**
2. **The important "Marian River Fault," which traverses Rayrock, "straddles" the Starlight property for its entire length of 2 miles.**

• • • • • • • • •

STARLIGHT'S TREASURY HAS BEEN INCREASED BY

$100,000.00 CASH

Your company negotiated its financing agreement with Corporation Financiers, last week, who immediately placed One Hundred Thousand Dollars ($100,000.00) cash in the treasury as an initial payment.

• • • • • • • • •

TWO EXTENSIVE PROGRAMS PLANNED!

With adequate finances now assured, extensive exploration is planned for:

1. The Marian River Uranium property, neighbouring Rayrock.
2. The Beaverlodge uranium property, which is bordered on three sides by properties of Pacemaker, Lorado and National Explorations.

• • • • • • • • •

Examine your certificates. If they are not in your OWN NAME, please send them, immediately, for proper registration TO

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You will thus make certain of receiving all important, official information, promptly.

STARLIGHT MINES LIMITED
85 Richmond St. W., Toronto, Ontario

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now solicit enquiries re

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General Manager,
H. A. PEARSON,
formerly of
McIntyre Porcupine

Chief Geophysicist,
E. M. SPENCER,
formerly of
Falconbridge

Room 607, 320 Bay St., Toronto 1
EM. 4-5642 HU. 9-8375

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330 Bay Street, Suite 207, Toronto, Canada

Dear Sirs:

I would be obliged if you would mail me, without obligation, full information on Manpre Uranium Exploration Limited, a speculative mining issue, and the undermentioned items as checked off in the margin.

Check here:

1. Copy of "The Importance of Uranium in Our World Economy", Revised.
2. Locality map of: Beaverlodge — Blind River — Marian River (check name of mining camp).
3. Up-to-date information on ..... (fill in name of mining or oil company)

Name .....

Address .....

Province ..... Telephone .....

NOTE: Maps and brochure are being prepared in limited number. To avoid disappointment act promptly.

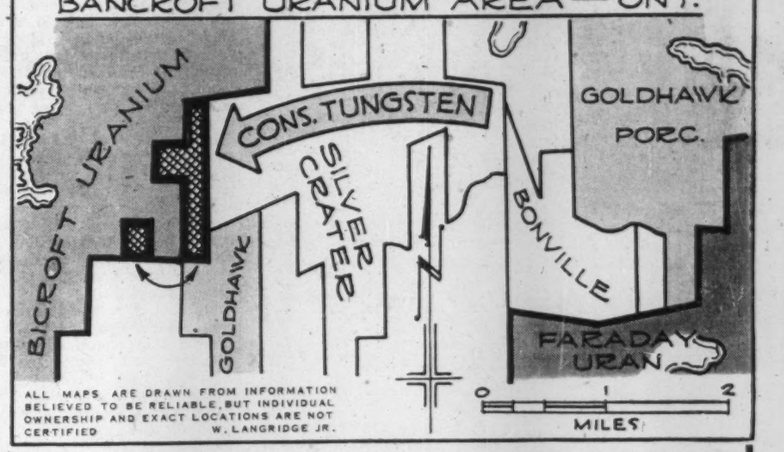
FOR INFORMATION OF SHAREHOLDERS:

MAP SHOWING LOCATION OF

CONSOLIDATED TUNGSTEN MINING CORP. OF CANADA, LIMITED

IN THE

BANCROFT URANIUM AREA — ONT.



ALL MAPS ARE DRAWN FROM INFORMATION BELIEVED TO BE RELIABLE, BUT INDIVIDUAL OWNERSHIP AND EXACT LOCATIONS ARE NOT CERTIFIED W. LANGRIDGE JR.

DRILLING CLOSE TO BICROFT URANIUM OREBODY

A diamond drill machine is being moved immediately onto the property of CONSOLIDATED TUNGSTEN CORP. in the Bancroft area of Ontario, to test the projection downdip of the radioactive zone exposed on surface on the adjoining property of Bicroft Uranium Mines. Three holes to be drilled to a minimum proposed depth of 1,500 feet have been spotted, the first of these being within a single claim of the location of the Bicroft shaft.

An engineering crew is also moving in this week to the Company's group of claims on Outpost Island in Great Slave Lake to investigate the possible presence of Lithium, especially on Bill Claim No. 11 where a strong dike with heavy pyrite mineralization and lesser amounts of tungsten, molybdenite and tin form a mineral association that may be favourable for the presence of Lithium in the form of spodumene.

• •

CONSOLIDATED TUNGSTEN
MINING CORPORATION OF CANADA LIMITED
80 KING STREET W., TORONTO, ONTARIO

Broulan Reef Depth Program Catching Up

Operating profit of Broulan Reef Mines before write-offs for the first quarter of 1955 amounted to $118,551 compared with $48,661 for same period in 1954.

Development of the deeper levels is now at a stage which we had hoped to reach in 1953, President B. W. Lang told the annual meeting. We probably would have done so if it had not been for the work stoppage which occurred in July 1953. It is reasonable to expect that the lower levels will yield ore results similar to that obtained on the upper levels. As the Bonwhit ore zone is about 2,000 ft. from the shaft a considerable period of time is necessary for cross-cutting and drifting on each level to reach this area. An ore shoot has been opened up at a location about 700 ft. east of the shaft on the 1,420-ft. level. Muck samples averaged 0.95 ounces ($33.25) per ton for a length of 263 ft. over drift width of 8 ft.

A great new era in Canadian Railroading brings *New Traffic Comfort* to you!

Canadian National's new equipment offers you comfort you can see and feel. 592 smart passenger cars, now in service in all the provinces, make travelling comfortable, relaxing, practical. Prices are down to earth and economical. On your next trip, if you wish to get more for your money, go by train!

Star performer of Canadian National's new equipment is the SuperContinental, operating between Montreal, Toronto and Vancouver. A very essential part of this splendid train is the baggage car — 25 of which, in use with the SuperContinental, were built by National Steel Car.

National Steel Car Corporation have produced a high percentage of the railway rolling stock which is serving Canada and Canadians. Realizing the extent to which Canadian prosperity depends on the tremendous transport job being carried out by our railways, we are proud not only of the quantity, but also of the variety and quality of the equipment delivered by our plant.

Illustration of one of the baggage cars used with the SuperContinental and built by National Steel Car Corporation.

NATIONAL STEEL CAR CORPORATION LIMITED

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ANNOUNCEMENT

W. W. HOLLAND

The appointment of W. W. Holland to the position of Vice-President, Pulp, has been announced today by H. G. Munro, President of British Columbia Forest Products, Limited. Mr. Holland has had 30 years of experience in the Pulp and Paper industry. During the past four years he has been Manager of the Oxford Paper Company in Rumford, Maine, U.S.A. Prior to that he held positions with several Canadian Pulp and Paper Companies.

Mr. Holland was elected to the Technical Section Executive Council of the Canadian Pulp and Paper Association in 1949. He served as Vice-Chairman in 1950 and as Chairman of the Executive Council in 1951.

Mr. Holland was born in Thorold, Ontario.

Pembina Results Pace West's Oil Boom; Expect Million B/D Output By 1962

By GORDON M. GRANT

EDMONTON (Staff)—Canada's western oil boom is continuing at a fast pace that even short-term marketing concern does not appear able to slow.

The boom is being paced, of course, by expanding development of this country's largest oil field — Pembina — whose 500-sq. mile area is the greatest of any field in North America's history. Estimates of indicated recoverable oil at Pembina, which is 70 miles southwest of Edmonton, range as high as 1.5 billion bbls. This does not represent proven resources as yet but can be regarded as indicated oil.

Although only 311 wells have so far been completed (work has been slowed by difficult terrain, weather until recently), the Pembina region is already turning out 37,000 bbls. of oil per day as against about 86,500 bbls. a day for Redwater with its 950 wells and 57,000 bbls. a day for Leduc which has over 1,200 wells.

Ultimately Pembina is expected to have a minimum of 4,000 wells. This will give some idea on ultimate daily production possibilities.

The enthusiasm with which newer oil resources are being sought in Alberta in 1955 was brought home last week when Alberta auctioned off further oil rights, including lush Pembina acreage, and placed a cool $27.3 millions in the provincial treasury. According to reports in financial circles here, the Alberta Government had to return cheques for a further $257 millions to unsuccessful bidders. One major company is reported to have bid on no less than 14 parcels without getting a single one!

Cynthia Bidding

Surprise was expressed in some quarters that California Standard Co. should pay as much as $10,500,002 for a reservation embracing oil and natural gas rights underlying 92,160 acres of wilderness in the Cynthia region west of Pembina. No oil has been proven on this acreage, even if oil is established, half the acreage will revert to the Crown under Alberta Government regulations. Actually, however, there was aggressive bidding on this block of ground which gives some idea on how companies are trying to "sweeten" their land position with Pembina holdings.

With large-scale drilling of Pembina acreage facilitated by recent dry weather, Western Canada oil well drilling stands every chance of beating last year's peak of 2,293 well completions with their aggregate 9,159,302 drill footage.

Wells are currently being completed at Pembina at a rate of two or three a day with about 50 rigs located in various parts of the multi-discovery area. Socony-Vacuum Oil Co. of Canada, which found Pembina, has 12 rigs at work on acreage held jointly with partners Seaboard, Merrill Petroleums and Canadian Collieries, hopes to complete 180 wells this year, weather permitting. With recent Crown auctions, the level of Pembina drilling activity is almost certain to increase but road-building activities are a prerequisite in this muskeg-lightly-wooded region.

Opening Up The Country

An incidental effect of Pembina oil field development is the opening up by good roads of sections where farming and other economic activity will be practicable. So far small undistinguished settlements like Drayton Valley and Violet Grove have close to 50% of their residents in trailers. And at Drayton Valley, it costs $42.50 a month for parking your trailer, electricity and gas. However, a few fine homes are being built at Drayton Valley and authorities plan modern townsite development.

Allowing for production from Saskatchewan and Manitoba, Western Canada is producing approximately 350,000 bbls. of oil a day or better than 60% of Canada's total consumption of petro-strewn lightly wooded region. 550,000 bbls. But another 100,000 bbls. of crude could be turned out a day from presently completed wells but for lack of available markets. And crude-producing capacity is constantly on the increase. Just now is the peak period of Prairie Province demand or production would not be quite so close to its present record level.

The "freak of geography" which has placed Canada's major known resources of crude oil in a location remote from both the country's large eastern market and world markets will undoubtedly continue to be a costly factor when it comes to full realization of crude-producing potential. But there are signs that Canada can and will win new markets. A new refinery at St. Paul of 25,000 bbls. daily capacity is scheduled for completion this August. It will use almost entirely crude from Saskatchewan's Fosterton field. Output in the Fosterton field has already been stepped up to 9,000-10,000 bbls. per day to service this market and a further increase in output to between 15,000 and 20,000 bbls. a day is expected before the end of the year.

Another favorable development is the scheduled completion this year of a new 50,000 bbls. daily capacity refinery by Shell Oil in Washington State south of Ferndale where General Petroleum Corp. is already taking 26,000 bbls. a day of Canadian crude. Canadian crude is already competitive at its present price in the area of the Shell refinery. Use of some Canadian crude is to be anticipated and if unusually low prevailing tanker rates should be firm, Canadian crude might capture this entire market.

The U. S. Pacific Northwest represents a very large potential market for Canadian crude and is one of the bright spots in our future marketing picture.

Expectation of the oil industry is that by 1960 or 1962, Canada will be producing a million bbls. of oil a day. If realized, that will be a far cry from the pre-Leduc period when Canada had only one oil field producing about 25,000 bbls. daily.

Quebec Suspends Claim Staking In Ungava Area

MONTREAL (Staff) — Quebec is suspending all claim staking in the Ungava area for the time being. The move is said to be aimed at permitting the Government to study mineral wealth in the area more intensively.

This sort of action is unusual, but not unprecedented. Staking in Quebec's Eastern Townships was temporarily suspended at one time for about two years.

In the Ungava region of Quebec, where much of the Iron Ore Co. of Canada operation is located (part of it is in Newfoundland) interest is running very high this year. Completion of the railway has given a new impetus to exploration, and large new base metal finds are beginning to shape up. Much of the work is being done by the Hollinger-Hanna interests.

However, there is still comparatively little known about mining possibilities in the vast region. So Quebec is apparently going to find out more before it permits further staking.

In announcing the suspension, Premier Duplessis did not indicate how long it might last.

This year, Quebec has two parties mapping areas just south of Ungava Bay and 250 miles northwest of Schefferville, centre of the Iron Ore Co. deposits. Another party is working along the route of the railway. In addition, an area 60 miles northeast of Seven Islands is being examined, and another 180 miles east of that port and extending inland from the Gulf of St. Lawrence.

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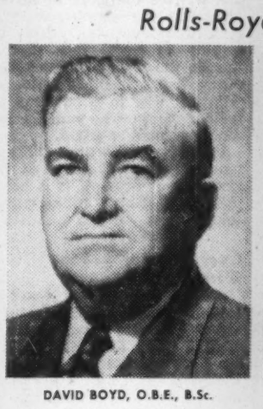
ANNOUNCEMENT

Rolls-Royce of Canada Appointments



DAVID BOYD, O.B.E., B.Sc.

K. J. GRUNDY

A. M. SCOTT, B.Sc.

R. M. Kendall, general manager of Rolls-Royce of Canada Limited, Montreal, announces the appointments, with immediate effect, of DAVID BOYD, O.B.E., B.Sc., as works manager; K. J. GRUNDY, as production manager; and A. M. SCOTT, sales manager, aero division. Mr. Boyd widely known in the Canadian aviation industry, and graduate of McGill University, is a director of the company, which he joined in 1951 as production manager. Mr. Grundy, who joined Rolls-Royce Limited, Derby, as an apprentice in 1936 and has been closely identified with aero engine design and development, was named assistant to the production manager in 1952, and as production manager now becomes deputy to Mr. Boyd; A. MAXWELL SCOTT, B.Sc., is a graduate of Aberdeen University, and joined Rolls-Royce Limited in 1939, doing post graduate work. He came to Canada as technical representative in 1950, was appointed chief test engineer in 1952, and succeeds Air Commodore E. R. Pearce, as sales manager, aero, the latter having been transferred to Derby.

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Hopes High On July 18 Gas Hearing

The U. S. Federal Power Commission has set July 18 as the opening date for hearings on Pacific Northwest Pipeline Corp. and El Paso Natural Gas proposals to import 300 million cu ft of natural gas daily from Westcoast Transmission in B. C.

Pacific Northwest has contracted to purchase up to 300 million cu ft of natural gas daily from Westcoast Transmission. El Paso in turn proposes to buy up to 250 million cu ft daily from Pacific Northwest to service its extensive California market.

Top gas authorities are forecasting an early and favorable FPC decision on the proposed import of Peace River gas. Construction on Canadian section of line will start immediately approval is forthcoming. Engineering surveys are already under way and if FPC okay comes in time a fall program of constructing river crossings, laying out rights-of-way, and putting down some pipe, will be undertaken. Planning now is to complete Westcoast pipeline to U. S. border by summer of 1957.

ST. JEROME, QUE. School Board has sold $165,000 3%-3½% bonds due 1956-75 to Gairdner & Co. and Dawson Hannaford Ltd. at net cost of 3.67%. Provincial grant $99,338. Net funded debt $1,095,500, population 20,275.

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LETTER FROM LONDON

By Adelphi

LONDON — Well, the railway strike is over. It went on for nearly three weeks and ended as it began. Nothing was won, and nothing was conceded except an offer by the Government to appoint an independent referee. Both parties to the dispute have agreed to accept his decision on the two points outstanding.

That is the official explanation of why the strike ended, but I do not necessarily accept it. In my opinion the wretched thing came to an end because the wives of the strikers got sick of seeing their men hanging round the house.

Like the sardonic satirist that it is, the stock market which boomed when the strike started, celebrated the end of the strike by a slight sagging of prices. The ways of a maid with a man are not so unpredictable as the way of investors with their money.

In fact, by this time the most vivid memories of the whole period are the canceling of the Trooping the Color, the substitution of a motor car instead of the state coach for the Queen when she opened Parliament, and the postponement of Royal Ascot.

* * *

Eden, Monckton Sick of Strikes

However, Prime Minister Eden and Sir Walter Monckton, Minister of Labor, are determined to put an end to these crazy strikes which are almost always settled on the terms which had originally been offered to them.

Since, in Britain, there is humor in all things, the Londoners are already sighing for a return of the emergency traffic regulations that were imposed during the strike period. Instead of allowing cars to crowd into the centre of London until traffic can only crawl, the emergency regulations made motorists leave their cars at the perimeter and not travel to the centre unless they had garage facilities.

The result was that traffic moved twice as fast and the public were delighted. In fact comos emerged instead of chaos.

Macmillan Makes New-Job Debut

In Parliament Harold Macmillan made his first full dress speech as Foreign Secretary, remarking casually in the process that when the speech was over he would have to leave the House because he was flying to a conference in New York.

Macmillan is a remarkable man. He was A.D.C. to the Duke of Devonshire at Rideau Hall and during his term of duty married the daughter of the boss. He was badly wounded in the 1914/18 war serving with the Guards, and after the war he entered the famous family publishing business of Macmillan's.

Inevitably Macmillan went into Parliament as a Tory but proved to be such a radical that he finally renounced the Party Whip and became a lone wolf. Yet his voice had the drawl of a Very Superior Person. When the Hitler war came he was back in the Party and was sent out to North Africa as a special minister where he did first-rate liaison work.

Therefore the House of Commons this week was crowded to witness his debut as Foreign Secretary.

But where was the rebel spirit of other days? Where was the barbed wit? Where was the unexpected phrase? Seldom in the history of public oratory have so many clichés been crowded into one speech.

From smiles the House went to chuckles, but Macmillan did not depart from his brief. Perhaps he was wise but I must state that the House gave an appreciative cheer to Socialist Kenneth Younger when he said: "Certainly there is a great deal in the Foreign Secretary's speech with which I cannot disagree and on which I find it impossible to make an intelligent comment."

It was a skilful use of the stiletto but Macmillan will come into his own.

* * *

Tories Drop Hatchets To Honor Shinwell

Incidentally there was a good example of the camaraderie of British political life when a number of prominent Conservatives, including Leo Amery and Lord Hore-Belisha, turned up at a public luncheon of 400 people to do honor to Emanuel Shinwell, the 74-year-old Socialist who has just written the story of his life.

Frankly the speeches were not at a high level. Mr. Attlee was precise as usual and Clement Davies, the leader of the Liberal Party, left nothing unsaid. But Shinwell was in good form and the customers, who paid for their lunch, seemed satisfied.

Incidentally Winston Churchill sent a cordial message of congratulations proving, if it needed proving, that he is a man without rancor.

* * *

Government 'Survives' With Majority of 81

At the end of the week the long Parliamentary debate on the Queen's Speech came to an end with a noisy knockabout debate on a virtual vote of censure by the Socialists. I hasten to add that the censure was against the general policy of the Government and not against Her Majesty.

Toward the end of the debate there was such pandemonium that Harry Crookshank, winding up for the Government, could not make himself heard as he sailed into his peroration. But there was no particular venom in the demonstration. To the surprise of everybody the Government emerged with a majority of 81.

Naturally Mr. Gaitskell, the former Labor Chancellor and the probable future Leader of the Party, made great play about the untaxed profits being made on the Stock Exchange. "It has become a casino," cried Gaitskell, and urged that Butler should do something drastic, or at any rate do something.

In his reply Butler never mentioned the matter at all. As a believer in free enterprise he obviously thinks that people should be allowed to do what they like with their own money.

* * *

U. K. Profit Sharing Gets Encouragement

However, the new look in industrial affairs is co-partnership. Speakers on both sides urged the Chancellor to encourage profit sharing with the workers. Butler's only comment was that he would be glad to hear and would heartily approve of any enterprise that carried out the principle of co-partnership.

The biggest laugh came when Butler, with mock solemnity, said: "The only enterprise that closed down during the strike was a Scottish distillery (hilarious cries of 'Shame!') and it closed down for lack of water." (Pandemonium)

Design Quetico Wilds Study To Keep Things That Way

This summer teams will enter the million acre Quetico Park area of Ontario in quest of conservation.

It is the first move of the newly formed Quetico Foundation. The group, with headquarters in Toronto, is working to preserve the natural state of flora and fauna on the giant stretch of land running west from Lake Superior. (The Financial Post, Jan. 29, 1955.). Quetico borders on the Superior National Park in the U. S.

Immediate summer plans are:

—A 10-week trip through the area by Robert Dailey, a graduate student at the University of Toronto. The history and culture of the original Indian inhabitants will be studied.

At the end of the summer Kenneth E. Kidd, Curator of Ethnology at the Royal Ontario Museum of Archaeology will join Dailey in the park to familiarize himself with the area, check on Dailey's studies and consider ideas for future research projects.

—A geological and mineralogical study of the park area by Dr. V. Ben Meen, Director and Curator of Mineralogy, Royal Ontario Museum of Geology and Mineralogy. With him, as assistant, will be Leonard I. Cowan, Chief Technician at the Museum. Together they will carry out a reconnaissance of the whole area.

They will collect minerals, rocks and geological specimens for the Park museum and, at the same time, lay the groundwork for mapping and recording the geological findings. The work will probably last five weeks.

—The Foundation has underwritten the costs of maintaining two junior rangers for the summer, working with the Department of Lands and Forests.

A further project, a beaver study, is planned for next spring, under the direction of Dr. Carl Atwood, Professor of Zoology at the University of Toronto. The park's beavers are said to differ considerably in behaviour from the beavers of Eastern and Northern Ontario.

By these studies and results the Foundation hopes to keep the area in the public eye, and to retain the same atmosphere it had long before the white man came.

Here's Employment Situation By Regions Across Canada

OTTAWA (Staff) — Canada's labor force reached an all-time peak at mid-May, with 5,537,000 Canadians at work and only 213,000 seeking jobs.

Between mid-April and mid-May number of Canadians with jobs went up 201,000 and the number of job applicants at NES offices dropped by 114,000.

Here is a review of Canada's employment situation at mid-May by regions:

The Maritimes: Employment increased sharply during May, principally because of re-employment of large numbers of workers in seasonal industries. The logging industry, for example, was unusually active during the month as a result of stronger demands for lumber and pulpwood. At May 21, the number of persons with jobs totaled 484,000, an increase of 38,000 over the previous month and 18,000 over the previous year.

Quebec: The normal spring upswing in employment region gathered momentum in May and increased labor requirements sufficiently to reduce labor surpluses substantially below year-ago levels. Almost all occupations were affected, particularly those connected with construction, navigation, truck transportation, logging and sawmilling. The number of persons with jobs at May 21 was estimated at 1,469,000, an increase of 58,000 from April 23 and of 19,000 from May 22.

Ontario: Heavy seasonal hirings for the construction, agricultural, railroad maintenance and other outdoor industries, together with continued strengthening in industries associated with the motor vehicle and construction industries brought the labor market into balance during May. The number of persons with jobs in the region increased by 48,000 during the month to a total of 1,969,000 (some 47,000 more than a year earlier). The increase during the same period last year was 39,000.

Prairies: Despite heavy rainfall and the recurrence of cool weather there was further employment expansion in outdoor activities during May. By May 21, the estimated number of persons with jobs amounted to 967,000, an increase of 46,000 from the previous month and 22,000 from a year ago. Farm activities showed the most marked improvement, and for the second consecutive month farm employment increased more rapidly than last year.

British Columbia: Employment showed a marked increase during May, the most notable improvements being in logging, sawmilling, construction, agriculture and transportation. There was also some improvement in manufacturing and in mining, where the upward trend of base metal prices led to increased requirements for underground and surface workers. In the week ended May 21, 435,000 persons were estimated to have jobs, 11,000 more than in April, and 23,000 more than at May 22, 1954.

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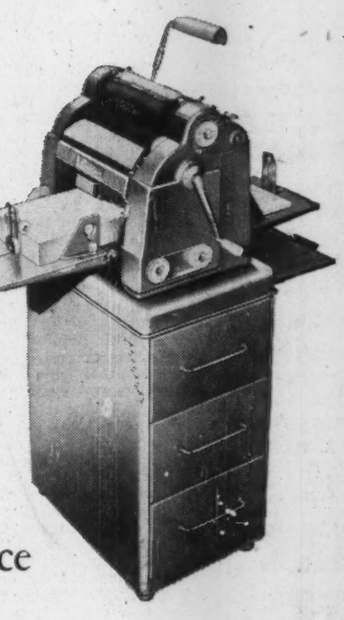

OFFICES IN ALL PRINCIPAL CITIES

Vickers Output Slightly Higher

MONTREAL (Staff) — Production by Canadian Vickers Ltd. for the first quarter of the current fiscal year, beginning March 1, is "a little ahead" of the same period last year, President O. H. Barrett said in answer to a question by a shareholder at the annual meeting here this week.

He said orders on hand at present are slightly less than at the same time last year but this does not mean the total for the year will be lower. The order picture could change any time because the company gets orders big and small, admixed throughout the year. General business conditions which prevailed last year are still in effect, he said. Competition of foreign shipbuilders is still keen. He was noncommittal on the dividend outlook.

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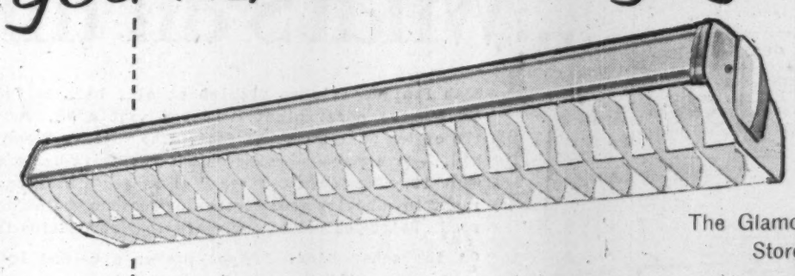

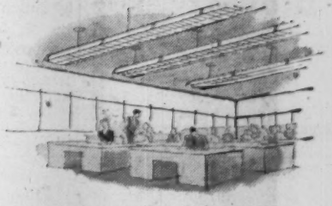

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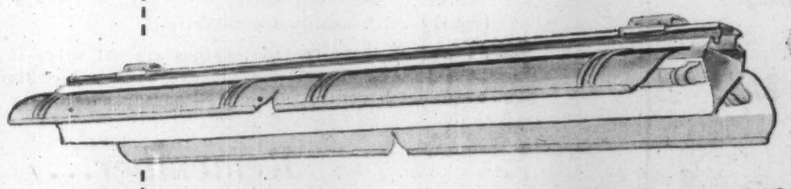

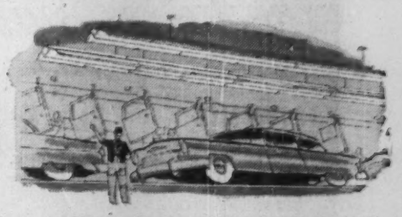

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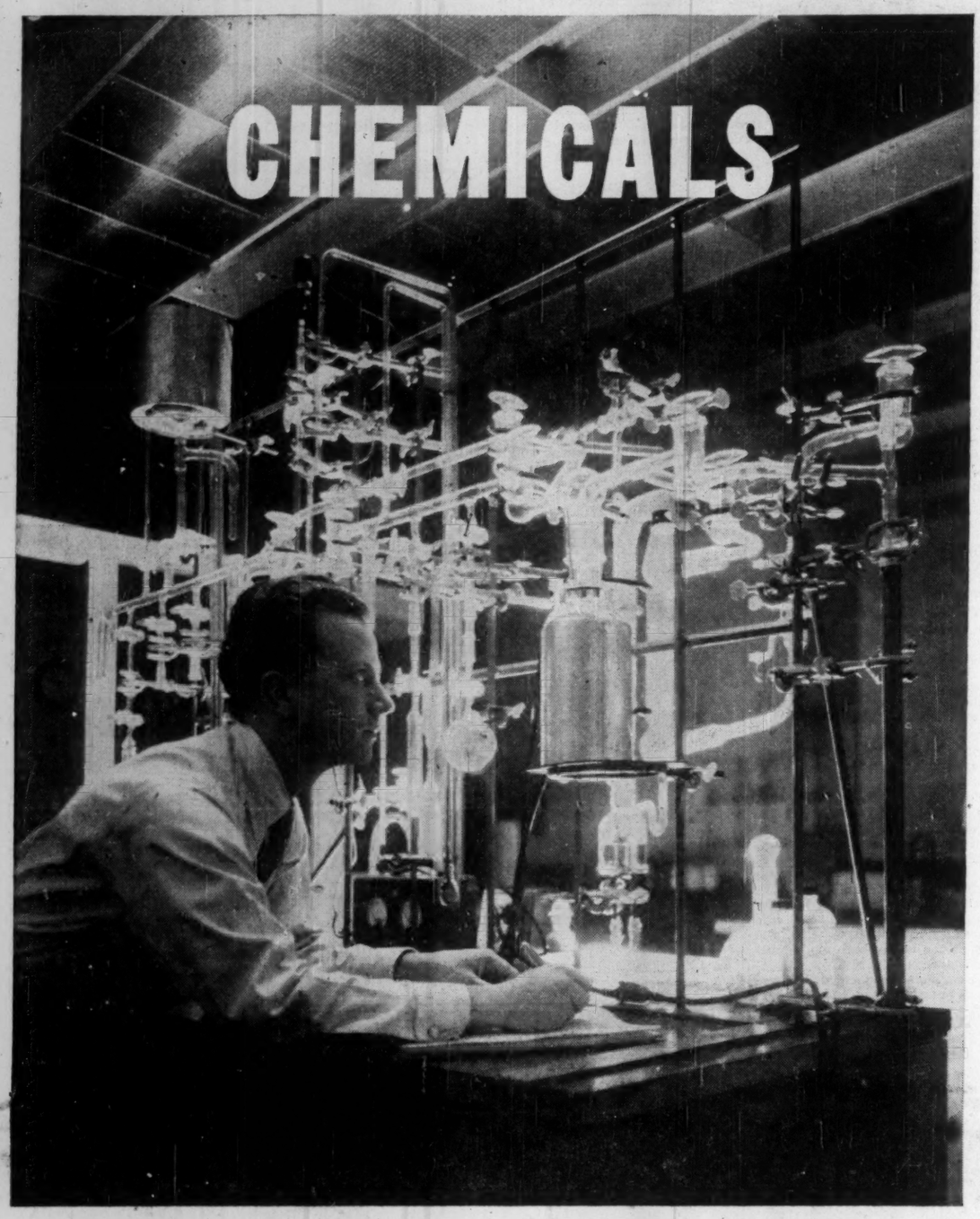
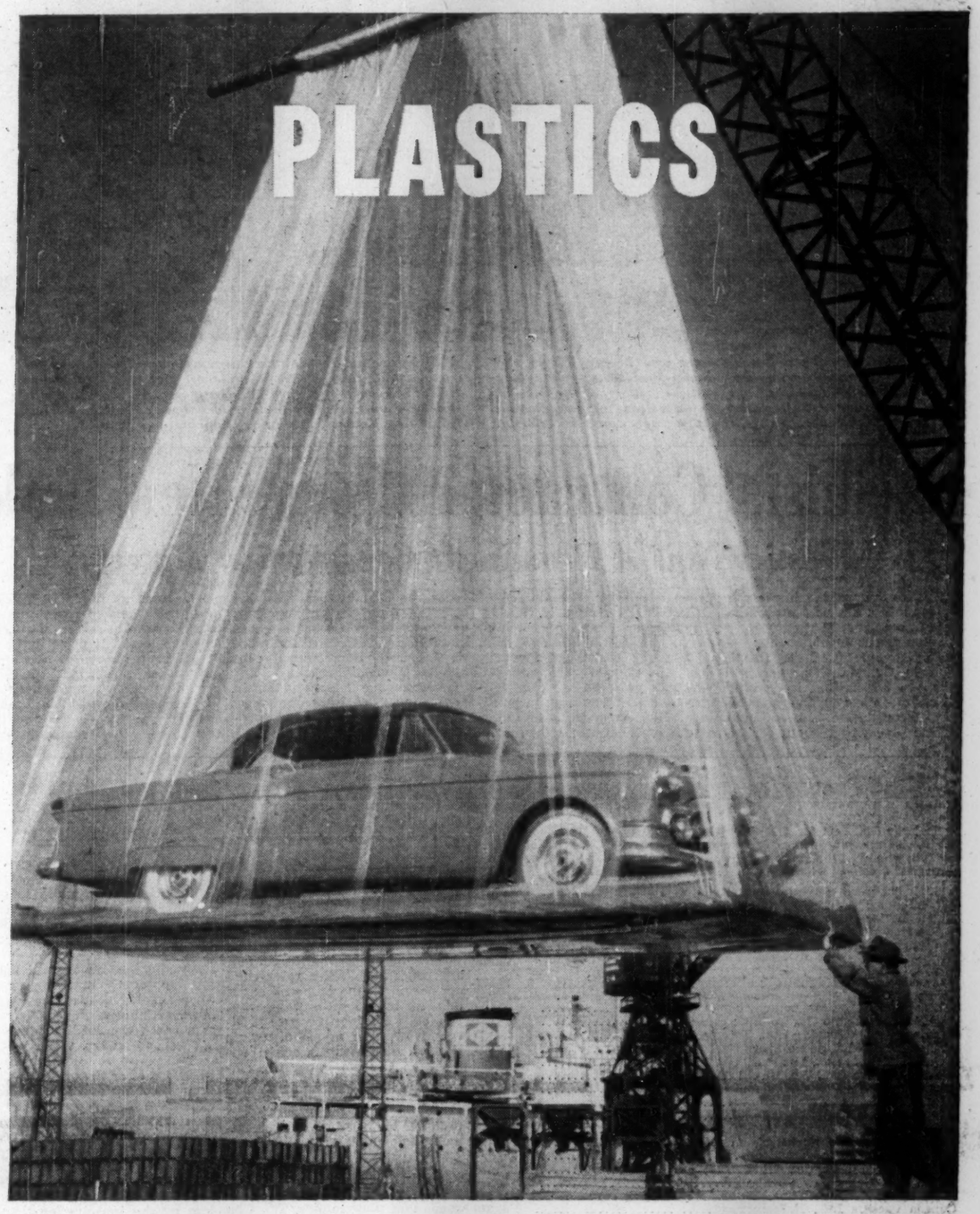




Chemicals Set For New Expansion Whirl

Natural Resources Spurt New Growth

By W. L. DACK

Canada's booming chemical industry, catching its breath after the postwar expansion in synthetics, is getting ready for another whirl.

This time, the sparkplug looks like natural resources.

It means that chemistry, and chemical research, will become even more important factors than they have been in some of our big mining developments, will continue to play a big role in our food production, and may gain new prominence in the pulp and paper field.

It's all part and parcel of the gradual movement of chemical processing steps into practically every basic industry in this country.

Just take the case of Sherritt-Gordon Mines — and this is a good example of what chemistry can do. Sherritt located its new $24 million base metals refinery near Edmonton to be handy to plentiful supply of good quality natural gas. The gas was to be the essential raw material in the manufacture of ammonia — the life-blood of one of the first chemical-metallurgical operations of its kind in the world. The ammonia was to be the all-important leaching agent in the new chemical recovery of Sherritt's nickel, copper and cobalt metals.

But because Sherritt had a lot of liquid ammonium sulphate left over after metal recovery, it went into the chemical fertilizer business too, "fixing" ammonium sulphate for sale on the prairies and the U. S. northwest.

A Chain Reaction

Here's the latest twist. Because Sherritt still had extra ammonia left over and needed sulphuric acid to convert that too into fertilizer, the prairies' first sulphuric acid plant is now going up alongside the Sherritt refinery.

Such are the unpredictable, and at the same time logical workings of the chemical industry; the sort of thing that makes it practically impossible to tell where the chemical industry stops and another starts.

Look at the story of the big Blind River uranium camp. The chemical leach process is to be used here too. But this time it will be that old chemical workhorse — sulphuric acid — that will perform the refining magic. To supply the acid requirements of this huge, developing uranium field, it will take at least a 500-ton-a-day plant — the biggest in Eastern Canada.

Noranda Mines will build and operate this multi-million-dollar plant. The sulphur will come from the iron pyrites from its Rouyn, Que., holdings. But by a unique Noranda-developed process some 70 tons of elemental sulphur and 350 tons of high grade iron sinter will be turned out at the same time. With the plant to be located on rail and deep water navigation, the premium quality iron can be shipped to any Canadian or U. S. steel mill in the Great Lakes area and the sulphur will have ready access to a number of pulp and paper mills in Northern Ontario.

Extensive research on the large columbium ores of the North Bay district indicates that heavy tonnages of chlorine may be involved in ultimate ore treatment plans.

The impact of these new natural resources programs on the chemical industry could be just as great in other ways. The tremendous development work ahead in these and other uranium and base metal camps means huge new tonnage demands for explosives (Du Pont of Canada has already announced a big new plant strategically placed a few miles from North Bay). And explosives, in turn, means greatly stepped-up demand for ammonia, sulphuric acid, ethylene dioxide — basic raw materials.

Things Never Dull

"Things may be tough at times but they are never dull in the chemical industry," is the way a top project development man with one of the largest Canadian chemical firms summed up the situation recently.

His firm has just jumped into the ammonia race spreading across Canada and U. S. An old-time chemical, ammonia has suddenly become the hottest item on today's chemical bill of fare. Six different companies have either recently completed or are building new ammonia plants in Canada. Biggest single factor in the ammonia boom is the relatively new fertilizer trend of direct application of ammonia to the soil. Farmers are coming to realize that this is the most economical way of applying nitrogen to their fields and the market potential is huge.

On top of that there is the revolutionary new move in processing sulphite pulp where ammonia is replacing lime as the base for the cooking liquor. If that catches on in Eastern Canada — — as it is giving every promise of doing — then ammonia demands will hit the sky.

More than ever before the chemical planner — like the advice to Alice in Wonderland — must run rapidly just to keep his place. Although every major chemical firm in this country has either built new plants or extended old ones over the past half dozen years, all have further growth programs on the books.

Some of the new steps will be logical product extensions growing out of established processes. Such is the case in the fast-moving group of petrochemical companies where new products could be added for years without any major shift in raw materials or process steps. For instance, Dow Chemical of Canada at Sarnia and Carbide Chemicals at Montreal East will advance steadily along their broad ethylene highways. Canadian Chemical Co. at Edmonton will take many product diversity steps along its propylene route and Polymer Corp. at Sarnia will add more specialty rubbers, along its broad butylene path.

The exciting natural resources program, still gathering momentum, cannot help but mean more ammonia, sulphuric acid, caustic soda and chlorine capacity. Record pulp and paper operations are already taxing caustic soda supplies but new paper plants are being planned.

What Pipeline Will Mean

Construction of a natural gas pipeline from Alberta to Eastern Canada will make available in the West large quantities of elemental sulphur and such valuable hydrocarbons as butane, propane, natural gasoline, etc. These will represent tremendous new raw material sources for still further chemical and petrochemical operations.

A couple of years ago Canada's two ethylene glycol producers appeared to have enough excess capacity to take care of domestic business — if they could get it — for the next 10 years. Right now with the tremendous jump in the numbers of automobiles on the highway both plants are producing at a high rate of capacity. What will happen in another year as car numbers keep climbing and big new consuming companies like Canadian Industries 1954's new Terylene plant at Millhaven — now on stream — and Du Pont of Canada's new North Bay explosives plant reach full operation?

Every new chemical plant that comes into operation — like the new $12 million tetraethyl lead plant being put up at Sarnia by Ethyl Corp. of Canada, the new $6 million petroleum catalyst plant planned for Valleyfield by Davison Chemicals Co., Baltimore, Md. — means big new markets for other basic chemicals.

It is reasonably certain that with the TEL plant going up at Sarnia someone will soon go in for production of metallic sodium — an essential raw material. In turn, if metallic sodium is available, it won't be long before someone decides to produce sodium peroxide. This could in time lead to large-scale bleaching of groundwood pulp.

Construction of the proposed plant at Valleyfield for first Canadian production of synthetic fluid cracking catalysts for use by oil refiners will likely lead to a second plant nearby to process sodium silicates, a basic raw material.

Thus the chemical chain reaction moves out endlessly from its starting point and as it moves it shapes the direction of future industry growth. And all the time white-coated chemists moving about quietly in their weirdly equipped laboratories are laying the foundations for entirely new chain reactions still to be touched off in the market place.

The Market Outlook

By 1975 chemicals consumption in this country should have doubled, forecasts one of Canada's top chemical experts. For a domestic industry which has doubled its output in just eight short years — to close to the $1-billion-a-year rate — that should not pose too great an expansion challenge. It has taken some $525 millions in new plant and equipment in that period to get the industry up to its present production level.

Although some company heads are beginning the tight competitive position at the moment in their fields every one is experiencing a certain exhilaration in just being in the Canadian chemical industry at this dynamic stage of its growth. Confidence in Canada's future is a great psychological asset when it comes to putting new expansion dollars on the line — and the chemical leaders seem to have this in great quantity.

It might very well have been the other way. There is plenty in the industry to cause concern. Since Canadian chemical manufacturers are largely denied access to U. S. and other foreign markets — with major exception of fertilizers — through prohibitive tariffs, it means they must depend almost wholly on home markets.

That would not be too bad in itself in an obviously expanding home market but with none, or only moderate, tariff protection they are not even assured the major share of the small domestic market. To have to share this market, or to have to drop prices sharply to retain it, hits doubly hard at the smaller domestic producer with his higher unit costs.

Many of the new plants built since the war represent the smallest economic unit feasible — and even then most of them were built with excess capacity. Although it is generally assumed in the industry that a given plant capacity can be doubled for a 50% increase in cost, few Canadian chemical companies will be in a position to do that for several years yet. In the meantime, the higher Canadian capital charges must be offset either by higher prices, lower raw material costs or lower labor costs.

Most seriously affected are the new plants built since the war and turning out products not formerly made in this country. The tariff position of many of these items is further complicated by GATT, which makes difficult any change in tariffs on chemicals which were formerly imported but are now made in Canada. Examples are ethylene glycol and polyethylene — both recently granted 10% and 7½% tariff protection — and phthalic anhydride, phenol and methanol.

Emphasis On Efficiency

While still hoping for some worthwhile aid to come out of the bed-rock review of the whole chemical tariff position which has been promised by Ottawa, the chemical leaders are putting most faith in their own ingenuity to lower operating costs and expand markets. On one cost factor particularly — raw materials — many are on equal or even more advantageous terms than their U. S. competitors. What's more, industry leaders look to this advantage to widen further over the years ahead with stepped-up development work in oil, gas, forest resources, saltfields, etc.

There have been some promising export developments in recent months — mainly to U. K., South American and Middle and Far East countries — and export departments are doing everything in their power to extend the trend. But much of this business is being looked on as only temporary and reflecting abnormal demand situations in the importing countries. Some exporters, however, point to the tremendous purchasing potential in Far East countries. If the current improvement in business trend in those countries continues, Canadian producers in a number of fields should have an excellent chance of doing business, they think.

But what do the leaders in the chemical industry think of the future? What will be the major trends from here on? Here, in order of importance in their own minds are the likely major trends to develop.

1. There is a general belief that the rate of expansion in the chemical industry will likely slow down and more closely parallel that of general industrial growth. This will be particularly true in the organics field (petrochemicals) which section of the industry has expanded from a $40 million investment in one wartime plant to a $300 million outlay in some 15 plants today. Biggest growth from here on, they think, will be in the inorganics — ammonia, sulphuric acid, chlorine, caustic soda, etc.

2. A big increase in essentially Canadian research by all the main companies. This trend will be particularly noticeable in the Canadian subsidiaries of large U. S. chemical organizations where formerly most of this was done in U. S. Canadian subsidiaries will be given more complete autonomy than ever before, encouraged to sharply step up rate of research expenditure particularly in essentially Canadian products and problems. Gradually research expenditures will come to be looked on as one of the major annual cost factors. Already big companies like Canadian Industries '54, Du Pont of Canada, Dow Chemical of Canada are stepping up their research expenditures.

3. Increasingly the big basic producers will step up their technical services to industrial customers. They will be prepared to offer expert technical and marketing advice. They will assume and direct more and more new product promotional work. This will mean heavier employment of engineers, put a still greater strain on available supplies of graduating scientists each year.

4. There will be a definite trend in some branches of the industry to carry products closer to end consumer level. This will be particularly so in the high polymer field — fibres, plastics, resins, etc. where many of the processors would be hesitant to try new ideas. This is part and parcel of the increasing merchandising responsibility that will fall on the basic manufacturers' shoulders.

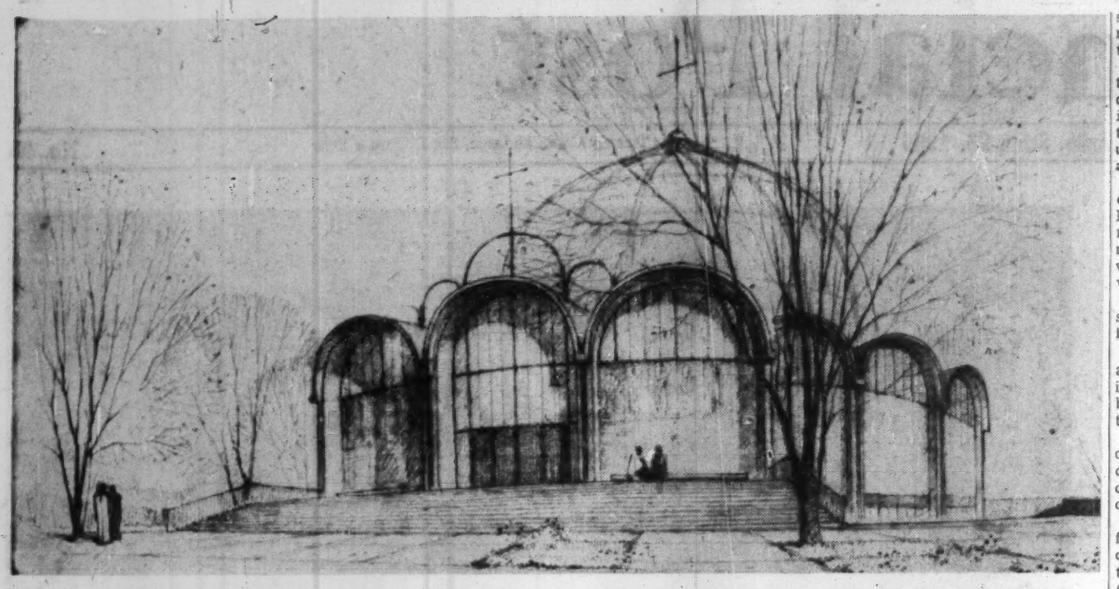
Everyone in the industry forecasts a continuing rapid growth in production of synthetic resins. In the last five years this business has jumped more than 500% in this country. Market research toward wider product applications in industry and consumer items, particularly in made-up plastics goods, is paying off handsomely. Their products have made big inroads into many construction fields, have revolutionized such business as floor coverings, pipe, paint, kitchenware, packaging, electronics. Applications in one of the biggest volume fields — automobile manufacture — are increasing every year.

With most of the 99 elements still to experiment with and in hundreds of combinations, the plastics industry must still be considered in its infancy. The tremendous advances made in tailoring new resins compounds to specific end products requirements has boosted prestige of the industry greatly in last two years.

The Growth Pattern

Product	1949 $ thousands	1954 $ thousands
Coal tar distillation	3,996	12,876
Heavy chemicals	39,664	143,343
Compressed gases ..	9,680	16,146
Fertilizers	33,984	78,391
Medicinals, pharm.	48,008	94,150
Paints and varnishes	39,810	109,791
Soaps and washing compounds	30,405	92,208
Toilet preparations	11,885	32,531
Inks	4,874	13,239
Vegetable oils	9,132	47,819
Adhesives	3,266	12,779
Polishes & dressings	5,868	17,831
Plastics (primary only)	9,663	50,431
Miscellaneous*	37,931	199,568
	288,171	921,103

*Includes explosives, hardwood distillates, insecticides, matches, dry colors, etc.



CHEMICALS are doing a bigger and bigger job in the construction sector. For example: architects of the new Slovak Greek Catholic Church of the Nativity of the Blessed Virgin Mary at Toronto called for a dome of Plexiglas on reinforced concrete ribs, the first such dome in Canada.

Plastics are a versatile new construction material, used for pipe, vapor barriers, wall surfaces, and with what some claim is a scarcely tapped building potential. Elsewhere the chemist joins with the builder in paints, adhesives, wiring, plumbing fixtures, insulation, flooring and fixtures.

Chemists, Contractors Forge New Link

Plastics Now A Prominent Construction Material

Plastics are making impressive strides into a position of prominence in construction uses.

Some recent developments:

Polyethylene used for plastic pipe in Canada this year will jump to 3.7 million lb., an increase of 41% over the year before according to one estimate. Plastic pipe will account for between a quarter and a third of all polyethylene used in Canada.

Plastic vapor barrier is catching on in the house building field. At least three firms are now selling it in Canada. This product, which is polyethylene film, will also be used for closing in buildings under construction in winter weather. It lets the light in, but keeps the heat in too. This sort of thing could be an important development for a country where builders are searching for more ways to iron out seasonal ebbs and flows in construction.

First commercial production in any country of a revolutionary plasticized plaster is slated to begin soon at Toronto. The new plaster uses synthetic resin, cellulose fibre and gypsum plaster to make a wall surface that needs only one coat. It dries in 12 to 24 hours. It can be painted four days after plastering. Another variation will be a tough nailable plasterboard that will take a vinyl coating. No tape is required at the joints. The company will supply a special mix to plaster manufacturers who want to sell the product.

A new plastic building sheet in the United States may be introduced into Canada soon. Though it consists of glass fibre and plastic, it is different from the products of that general nature that are familiar to the public.

The glass filament fibres are continuous and go in straight lines. Set in powerful epoxy resins, they act like reinforcing rods. In most plastic reinforced with glass fibre, the fibres are a woven mat or random web.

The epoxy resins are one of the strongest and most permanent adhesives known.

Three layers of glass fibres run at 120 degree angles to each other, in most cases. Or the fibres can be run in a special pattern to meet the stresses that will be imposed.

The factory will supply an uncured sheet stock, which can be drawn like sheet steel. After processing it becomes a strong, stable construction material.

Production of vinyl-asbestos floor tiles is running almost double last year's output. Production last year hit 6.8 million sq ft (⅛-in. basis). A pure vinyl tile is also increasing in popularity.

For Low-Grade Plywood

A plastic masking for low-grade plywood is being sold in Canada now. It provides a paintable, presentable surface that makes possible the use of plywood veneers that would otherwise have little market.

Vinyl is being sold now in Canada for wall coverings. You either fasten sheet vinyl to the wall with adhesive, or spray vinyl on in solution. It gives a tough, durable surface.

There's a beginning on spraying buildings and roofs with tough vinyl coatings. American techniques are being imported. In the U. S., jobs are guaranteed for 10 years. Some plastics are not suitable for exposure to weather, but others stand up very well.

Plastic can be used to impregnate paper "honeycomb" used in special "stressed skin" panels for building purposes. The stressed skin panel is a development that intrigues many architects and engineers. Two sheets of a building material — concrete, plaster, metal — are used to make a sandwich; the hexagonal honeycomb is the filling. The wall panel thus formed will carry great weights on top. It's light, though, and provides insulation. The plastic bonds the honeycomb to the outside layers of the sandwich.

A couple of products along these lines are already on the Canadian market. In the long run they may have great significance for building methods, some architects believe.

A Quebec firm is using foamed phenolics as insulation in houses and other buildings.

Foamed polystyrene also has a potential as insulation for buildings. Its main use is a low-temperature insulation in refrigerated rooms and the like, right now. It serves as low-temperature insulation for pipes too. It weighs 1.3 lb-2.5 lb cu ft. Special studies are under way in Canada on economics of its use in houses.

At least a couple of firms now make plastic bathtubs, for trailers. They are reinforced with glass fibre, have great strength and lightness.

Plastics are widely used in lighting these days. Plastic "egg crates" are used under fluorescent light fixtures. Now, too, there are corrugated plastic sheets to put under lighting fixtures: the whole ceiling can be taken down, rolled up, carried away and washed.

Plastics weigh only about a fifth as much as steel. But they give more under loads, so are not fully substitutable aside from questions of cost. Plastics are also subject to "cold flow"—losing their shape under a load over a long period of time. Reinforcing is helpful with some plastics.

Many plastics also expand and contract a good deal with changes in heat. It's possible to use expansion joints to take care of this difficulty, though.

Plastics seem likely to be adaptable to space-enclosing functions more than to load-supporting jobs. Thus, an experimental barn near Montreal that was built last year drew a lot of attention. The barn consisted of reinforced plastic sheets on the face of a many-sided "geodesic" frame made of wood, with special metal and other fittings. This patented system is being used in the States, and may be seen here for warehouses and other buildings of that type. The finished product looks like a dome, sitting on the ground.

NOTICE TO THE CHEMICAL INDUSTRY

William R. Perrin Ltd. offers a complete line of recessed plate and plate-and-frame filter presses.

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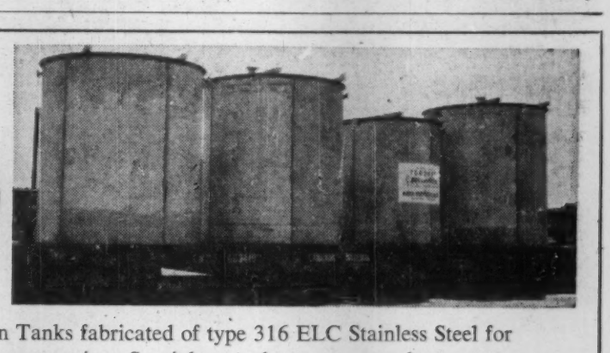

Four of eleven Tanks fabricated of type 316 ELC Stainless Steel for a large mining operation. Special procedures were used to ensure the welds, and weld zones developed high corrosion resistance to ensure long trouble free service.

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Toronto Canada

Defense Contracts

Defense contracts for $10,000 or more awarded to Canadian firms by the Department of Defense Production and Defense Construction (1951) Ltd., in the first half of May, were valued at $12,938,462, including contracts worth $2,327,528 placed by Defense Construction.

Included were a $1 million contract with Northwest Industries Ltd., Edmonton for repair and modification of aircraft from April 1, 1955 to March 31, 1956, and contracts for petroleum products worth $4,249,599.

Here is the list, excluding contracts classified for security reasons and amendments to contracts:

Contractor	Commodity	Value
Abercorn Aero Ltd., Montreal	aircraft towed target gear	$ 27,837
Aircraft Welding & Sheet Metals, Montreal	aircraft eng. case	12,000
Alberta Launderers, Edmonton	laundry services	19,000
Alpha Aracon Radio Co., Toronto	capacitors	15,963
George Angus (Canada) Ltd., Toronto	fire hose	26,689
Arshinoff & Co., Ville La Salle	steel drums	21,000
Aviation Electric Ltd., Montreal	aircraft wheel equip.	16,200
Bickle-Seagrave Ltd., Woodstock	fire fighting equip.	11,600
Bristol Aero Engines Ltd., Montreal	spares	145,000
B. A. Oil Co., Calgary	gasoline	13,853
B. A. Oil Co., Toronto	engine oil	11,648
B. A. Oil Co., Toronto	aviation gasoline	21,420
B. A. Oil Co., Toronto	petroleum products	13,468
B. A. Oil Co., Toronto	fuel oil	228,521
British Yukon Nav. Co., Whitehorse	gasoline	59,400
Bruce Coal Co., Ottawa	fuel oil	14,707
D. Cameron Associates Ltd., Malton	warehousing equip.	14,457
Canada Packers Ltd., Halifax	meat	62,276
Canada Packers Ltd., Montreal	meat	16,349
Canada Packers Ltd., St. Boniface	meat	15,875
Cdn. Arsenals Ltd., Ottawa	spares for compasses	38,482
Cdn. Arsenals Ltd., Ottawa, Ont.	ammunition	142,917
Cdn. Arsenals Ltd., Ottawa	production drawings	31,500
Cdn. Car & Foundry Co., Montreal	airframe spares	190,000
Cdn. Collieries (D) Ltd., Vancouver	coal	87,190
Cdn. Converters' Co., Montreal	clothing	11,661
Cdn. General Electric Co., Toronto	electronic components	58,173
Cdn. Import Co., Quebec	fuel oil	23,000
Cdn. Import Co., Quebec	coal	54,404
Cdn. Marconi Co., Montreal	radio equipment	237,500
C.P.R., Ottawa	maintenance of teletype equip.	16,500
C.P.R., Ottawa	rental of teletype facilities	50,150
Cdn. Track Power Ltd., Toronto	spare parts for tanks	33,606
Cdn. Westinghouse Co., Ottawa	electronic tubes	135,334
Capital Commercial Laundry Ltd., Ottawa	laundry services	20,000
Chrysler Corp., Windsor	trucks	14,243
City Laundry (Kingston) Ltd., Kingston	laundry services	23,000
Cleveland Container Canada Ltd., Prescott	ammo. containers	13,492
Coppley, Noyes & Randall Ltd., Hamilton	clothing	70,363
De Havilland Aircraft, Toronto	landing gear equipment	17,682
Dominion Coal Co., Montreal	coal	274,380
D. & S. Aviation Co., St. Laurent	aircraft engine case	13,000
Dunlop Canada Ltd., Toronto	rubber hose	25,880
Dutch Laundry & Dry Cleaners Ltd., London	laundry services	10,000
Excelsior Refineries Ltd., Edmonton	diesel fuel oil	191,133
Field Aviation Co., Oshawa	protective clothing	75,640
Fruehauf Trailer Co., Weston	semi-trailers	37,655
Gas Propane Sept-Iles	propane gas	10,500
General Equipment Ltd., Vancouver	ship's air condition'g equip.	41,829
General Fireguard Corp., Windsor	fire fight'g equip.	12,280
General Motors Products, Oshawa	automotive spares	10,400
Gensales Ltd., St. Catharines	floors for tents	28,581
Graham Bell Ltd., Streetsville	development of ammo. boxes	10,000
Gratton & Hotson, Grand Bend	propane gas	13,175
Gray Coach Lines Ltd., Toronto	transportation	101,600
Great West Coal Co., Regina	coal	72,050
Great West Coal Co., Brandon	coal	185,562
Halliday Fuels Ltd., Toronto	coal	53,540
M. A. Hanna Co., Toronto	coal	92,450
Hill-Clark-Francis Ltd., New Liskeard	shipping cont'n'rs	21,173
Imperial Brass Mfg Co., Toronto	tube benders	11,816
Imperial Oil Ltd., Ottawa	fuel oil	1,713,455
Imperial Oil Ltd., Ottawa	diesel fuel oil	131,996
Imperial Oil Ltd., Ottawa	gasoline	45,410
Imperial Oil Limited, Ottawa, Ont.	aviation gasoline	155,135
Imperial Oil Ltd., Ottawa, Ont.	petroleum products	760,196
Imperialle Fuels Ltd., London	coal	29,780
Innes Equip. Ltd., Toronto	maint. spares for tractor loader	19,230
Int'l. Business Machines Co., Ottawa	rental of office equipment	77,620
Int'l. Harvester Co., Hamilton	truck tractor	20,884
Irvin Air Chute Ltd., Fort Erie	protective clothing	98,880
Irving Oil Co., Saint John	fuel oil	102,550
Irving Oil Co., Saint John	gasoline	118,162
Irving Oil Co., Saint John	petroleum products	23,830
Kenebec Propane Gas Ltd., St. Romuald D'Etchemin, Que.	propane gas	24,600
Levy Auto Parts Co., Toronto	spare parts for tanks	24,628
Leyland Motors (Canada) Ltd., Longueuil	vehicle kits	117,128
Liquifuels Ltd., Toronto	fuel oil	190,642
Maritime Paper Products Ltd., Halifax	corrugated cartons	22,205
Masdom Corp., Montreal	aircraft accessories	42,093
McColl Frontenac Oil Co., Montreal	fuel oil	185,625
G. C. Metcalfe, Portage la Prairie	potable water	42,120
John Millen & Son Ltd., Montreal	chassis cleaning machines	18,860
Myers Coal Co., Hamilton	coal	13,032
Roy Nicholson, Toronto	waste removal	14,094
North American Cyanamid Ltd., Montreal	medical supplies	91,584
North West Sportswear Co., Toronto	clothing	156,443
Northam Equipment Ltd., Montreal	ships' machinery	87,071
Northwest Industries Ltd., Edmonton	repair, mod'f'n. of aircraft	1,000,000
Nova Scotia Propane Gas Co., Halifax	propane gas	30,404
Pacific Meat Co., Vancouver	meat	12,394
Peacock Bros. Ltd., Montreal	ships' machinery spares	41,730
Perth's (Brandon) Ltd., Brandon	laundry services	10,000
Phoenix Engineered Products Ltd., Toronto	repair of aircraft instruments	80,000
Photostat Corp., Toronto	photographic supplies	29,000
Railway & Power Engrg. Corp., Montreal	aircraft instruments	17,523
Ray-O-Vac (Canada) Ltd., Winnipeg	batteries	72,400
RCA Victor Co., Ottawa	airborne communication equip.	615,140
Rogers Majestic Electronics Ltd., Toronto	electronic tubes	203,246
Rogers Majestic Electronics Ltd., Ottawa	electrical equip.	16,328
Rumford's Laundry Ltd., Winnipeg	laundry services	10,000
Saint John Propane Gas Co., Saint John	propane gas	23,510
Sask. Federated Co-Ops. Ltd., Regina	fuel oil	36,000
C. G. Sharp & Son, Portage la Prairie	coal	37,146
Shell Oil Co., Toronto	aviation gasoline	167,400
Shell Oil Co., Toronto	lubricating oil	18,968
Shell Oil Co., Toronto	fuel oil	33,990
Shell Oil Co., Toronto	petroleum products	43,858
Smith & Nephew Ltd., Montreal	medical supplies	73,552
Standard Iron & Engrg. Works, Edmonton	scow	10,510
Standard Oil Co. of B. C., Vancouver	diesel fuel oil	83,280
Standard Oil Co. of B. C., Vancouver	engine oil	13,452
Supreme Power Supplies Ltd., Toronto	transformers	55,078
Swift Cdn. Co., Moncton	meat	27,077
A. M. Tallman, Winnipeg	asphalt paving	10,000
Thompson Products Ltd., St. Catharines	fire pumps, spares	31,003
Trinidad Leaseholds (Canada) Ltd., Toronto	fuel oil	28,500
Upton Bradeen & James Ltd., Toronto	deep hole driller, etc.	16,370
Valley Camp Coal Co., Toronto	coal	10,710
Victoria Shirt Ltd., Arthabaska	clothing	12,120
F. P. Weaver Coal Co., Edmonton	coal	54,000
Winnipeg Supply & Fuel Co., Winnipeg	coal	29,888
Contracts awarded by Defence Construction (1951) Ltd.		
Am. Fabricators Ltd., South Burnaby, B.C.	trusses for chapels	12,666
Ball Brothers Ltd., Kitchener	buildings	871,000
A. Deslauriers & Fils Ltee., Quebec	barrack block	492,409
Diamond Constr. Co., Fredericton	extension to building	96,341
Ellis-Don Ltd., London	service station, offices, etc.	314,847
Everall Engr. Ltd., Edmonton	reconstruction of roads, etc.	88,170
Foundation Maritime Ltd., Halifax	addition to school	28,512
P. W. Graham & Sons Ltd., Edmonton	firing range	29,450
Heath Constr. Ltd., Port Arthur	chapel	68,000
Horvath Engr. Co., Toronto	extension of steam system	39,747
Modern Constr. Ltd., Moncton	rehabilitation of roads	55,144
Redi-Mix Ltd., Mose Jaw	extensions to roads, etc.	49,336
Richards-Wilcox Cdn. Co., London	repairs to steel doors	52,191
Rodney Contractors Ltd., Yarmouth	water mains, fire hydrants	28,917
F. W. Sawatzky Ltd., St. Boniface	quonset type armoury	52,851
Winnipeg Roofing Co., Winnipeg	asbestos cedargrain shingles	11,028
N. H. Woods & Associates Ltd., Vancouver	grading, seeding and sodding	86,919

Northern Pine Serves As Southern Dust Preventative

What was once a tree in the Northern Ontario forests is now serving as a dust preventative on roads throughout the Niagara area and other sections of Southern Ontario.

New methods and techniques are constantly being researched and tested by the pulp and paper industry to make full use of what was once considered waste products. Now, after a year of testing and proving through actual application Ontario Paper Co. officials state they have successfully marketed a new and highly acceptable dust preventative by-product for road surface treatment, known as "Aqualig."

The new product has proven itself in such cases as parking lot treatment, county gravel roads and playgrounds. The City of Hamilton treated all swimming pool areas in order to prevent dust blowing into the pools, thus cutting down the frequency of pool draining and cleaning. The Ontario Hydro also treated all their haul roads during construction of the Sir Adam Beck project with Aqualig to eliminate dust.

Aqualig is a neutralized lignin sulfonic acid containing some wood sugars. Most of the sugars, however, have been removed and as a result the road surface does not become sticky when wet. It is noncorrosive to the running gear, bodies or tires of cars. Civic groups, county and township officials have been concerned by the dust nuisance on graveled roads ever since vehicular traffic began to play such an important part in our daily lives. Ontario Paper technicians and chemists believe that they have solved this problem by the introduction through research and experimentation of just one more product to be added to a steadily growing list.

Company Reports

To assist readers in appraising and comparing company financial statements, The Financial Post has a uniform method of presenting corporation accounts. Variations from the companies' published reports are footnoted.

Textiles

CANADIAN COTTONS LTD., consolidated net loss was reduced by 62.8% in the year ended March 31, 1955 at $1,338,955, compared with $2,525,606 in the previous year.

This loss is before depreciation which could have amounted to a maximum of $1,093,600 if claimed. No depreciation was taken in the previous fiscal year.

Surplus increased slightly reflecting transfer of $2 millions from inventory reserve (eliminating this reserve) and a profit of $584,537 on sale of capital assets. The loss and $1 million appropriation to write down carrying value of the investment in Textile Sales Ltd., were deducted in surplus account. Textile Sales had a loss during the year.

No dividends were paid on the preferred or common shares.

Reduction in annual rate of loss reflects a program to improve competitive position. Full value of mill reorganization should be available this year, L. C. Bonnycastle, president, states in the annual report. Production is substantially higher and other steps have been taken to improve service, including a sampling department which permits development and preparation of new fabrics and designs on a year-round basis.

The company can compete effectively with styles imported from the U. S., Mr. Bonnycastle says. The subsidiary, Textile Sales, is currently operating at a profit.

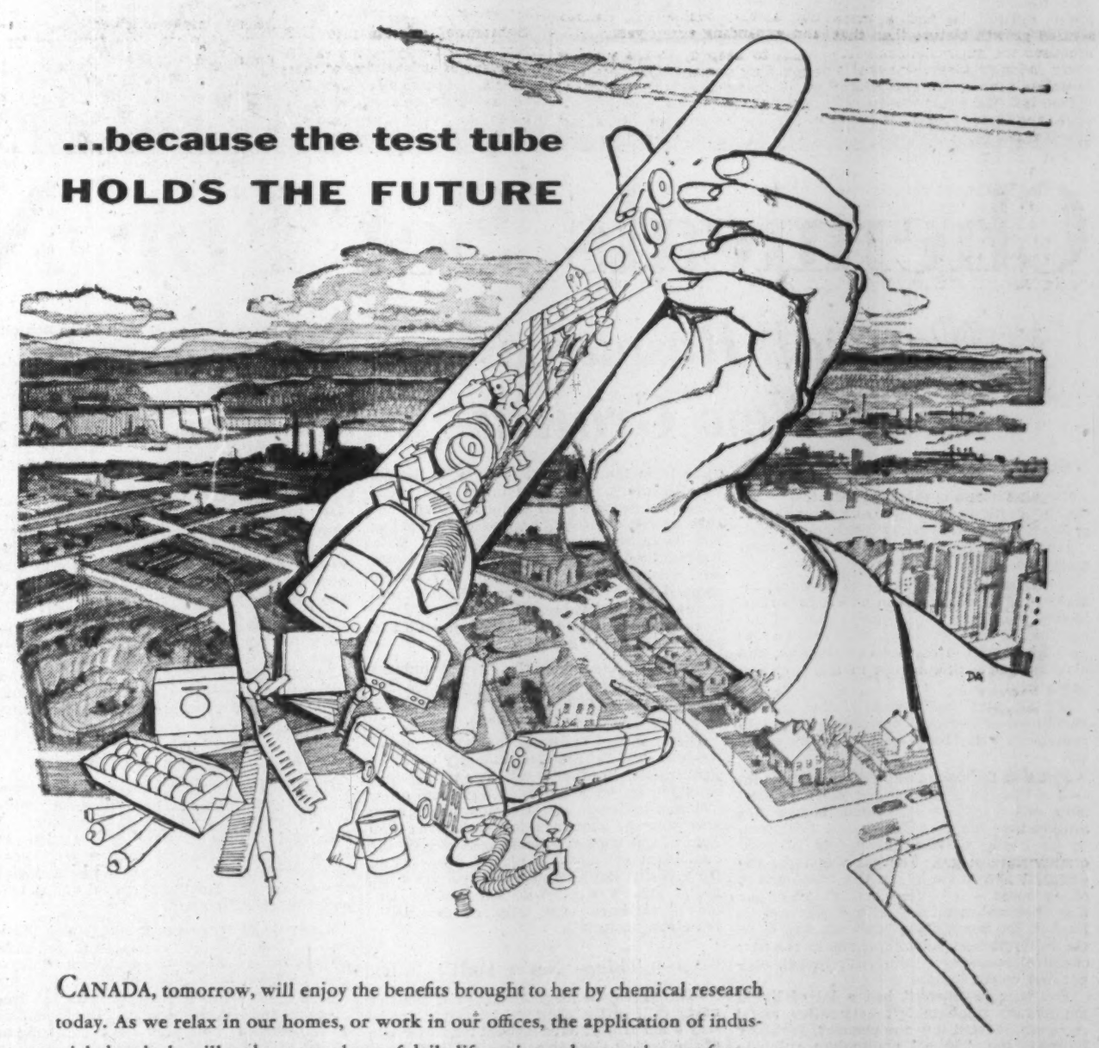
"The encouraging aspect of your company's present position is that the rate of loss suffered by the company has been reduced and there is reason to expect that this reduction in the rate of loss will be extended during the current year," he states.

INCOME ACCOUNT

Years Ended Mar. 31:	1955	1954
	$	$
Net earnings	41,162,705	42,239,356
Less: Bond int.	176,250	196,250
Net loss	1,338,955	2,525,606
Less: Pref. divds.	.....	95,703
Com. divds.	.....	48,479
Deficit for year	1,338,955	2,669,788
‡Loss.		
Earnings per Share and Dividend Record:		
Pref.: Earned	d$8.40	d$15.85
Paid	...	0.60
Com.: Earned	d11.05	d19.62
Paid	...	0.35

CONDENSED CONS. BALANCE SHEET

As at Mar. 31:	1955	1954
Cash	$469,929	$971,073
Accts. rec., less res.	2,131,000	1,952,218
Inventories	7,131,745	8,029,872
Tax recov.	159,273	165,946
Total curr. assets	9,941,947	11,019,109
Prepd. exp.‡	288,838	337,859
Invest. in assoc. co.	4,850,000	5,850,000
Fixed assets*	7,032,012	7,313,796
Total assets	22,113,797	24,520,764
Accts., tax., etc., pay.	1,274,552	1,422,101
Funded debt due	500,000	500,000
Total curr. liab.	1,774,552	1,922,101
Funded debt	4,500,000	5,000,000
Invent. res.	†	2,000,000
Capital stock	5,957,700	5,957,700
Earned surplus	9,881,545	9,640,963
*After depr. of	12,806,702	18,837,645
†Transferred to surplus.		
‡Included in curr. assets in co's report.		
Working capital	8,167,395	9,097,008



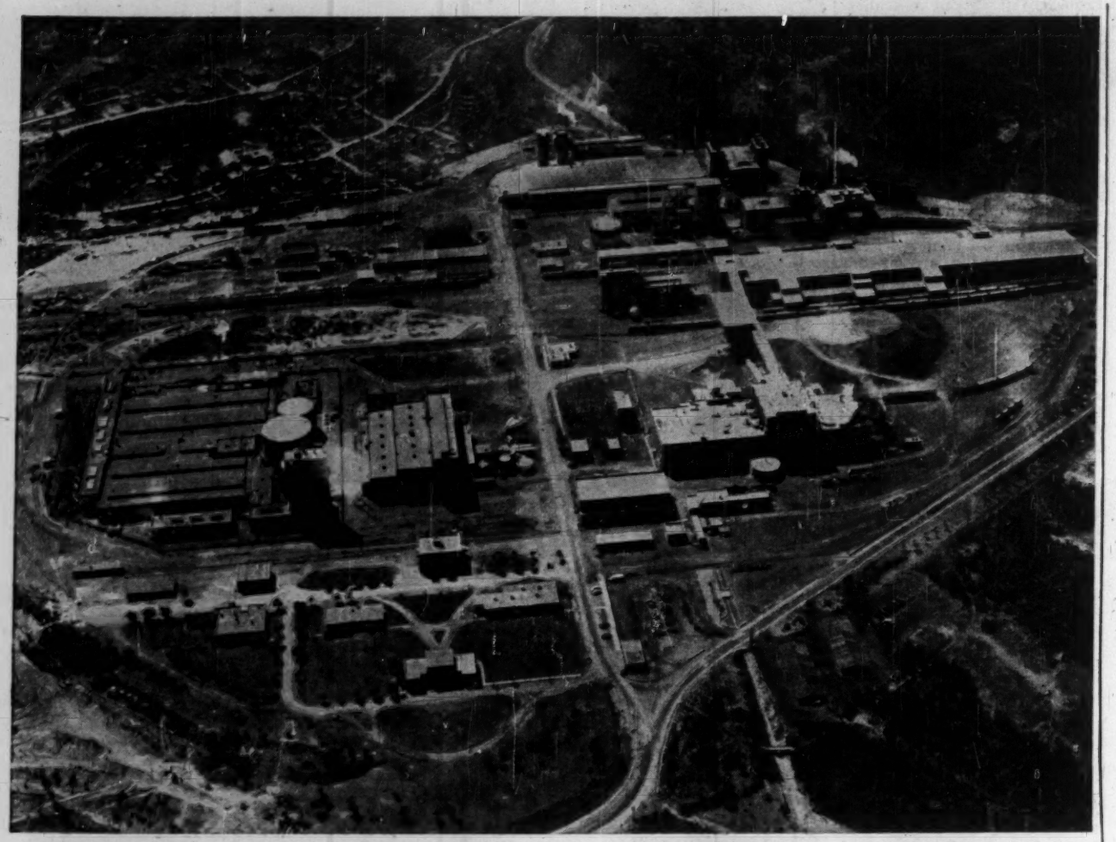
CANADA, tomorrow, will enjoy the benefits brought to her by chemical research today. As we relax in our homes, or work in our offices, the application of industrial chemicals will make every phase of daily life easier and more pleasant for us.

'Shawinigan' chemicals help Canadian industry produce and improve those necessities and luxuries which contribute to the high standard of Canadian living. Chemical research at 'Shawinigan' is continual. New industrial chemicals and new uses for existing ones are constantly being developed to stimulate the growth and progress of Canadian industry. Thus, whenever and wherever organic chemicals are required to build a greater Canada . . . 'Shawinigan' will be there!

Acetic Acid
Acetic Anhydride
Acetylene Black
Burned Lime
Butyl Acetate
Butyl Alcohol
Calcium Carbide
Crotonaldehyde
Crotonic Acid
Dibutyl Phthalate
Ethyl Acetate
Lime Hydrate
Monochloroacetic Acid
Paraldehyde
Pentasol Acetate
Vinyl Acetal Resins
Vinyl Acetate

SHAWINIGAN CHEMICALS LIMITED

HEAD OFFICE: SHAWINIGAN BUILDING, MONTREAL — PLANTS: SHAWINIGAN FALLS



LOW-COST raw materials and fuel put Western Canada's nitrogen fertilizer plants in a strong competitive position to supply growing markets in the Prairies and B. C. and export substantial proportions to north and western U. S. An aerial view of Consolidated Mining & Smelting Co.'s fertilizer plant at Trail, B.C.

Here's Elixir For Dying Soils

Nature's Challenge Gets Man-Made $75-Million Answer

On the few precious inches of topsoil built up over aeons of time the peoples of the world depend for their food supply.

But rapidly spreading population is tapping the remaining untouched cultivable land deposits, and extracting from the soil the life-giving plant nutrients at a faster clip than nature can restore them.

A pretty grim picture for future generations but a tremendous challenge for the chemist who with his own man-made magic can come to nature's aid.

On the face of it if would be pretty difficult to find a more assured growth picture than that promised the huge chemicals fertilizer industry today. Inevitably — unless some great new source of food is found — man must lean more and more heavily on the chemical produced harvest.

That is the long-term viewpoint. But today's farmer isn't going to buy fertilizer on that basis. It's dollars and cents economy today that must influence him and it's on this that the chemical leaders are financing new multi-million dollar plant programs.

For as long as the use of one dollar's worth of fertilizer results in increased yields of between two and five dollars worth of farm products, farmers cannot afford not to enlist the chemist's aid.

Though farmers still apportion their fertilizer expenditures according to crop revenue — cutting down a little when prices drop or crops fail — gradually an increasing number in every type of farming are swinging to the fertilizer ranks. It's now an $80 million annual business in Canada and expanding every year.

But to keep up to the steadily expanding demand for more and more chemically produced plant food has meant big postwar expenditures on new and expanded plants in this country. That program is still going on with no less than seven projects representing total capital outlays of around $75 millions either completed or planned. It has meant installations of new processes and production of plant foods from natural resources never before employed in this way. It has meant an almost revolutionary swing toward more and more concentrated plant foods.

Nitrogen No. 1

Every one of the major plant projects just finished or contemplated in this country is concerned with the No. 1 plant food — nitrogen. Four will concentrate on production of ammonia — the hottest item in the whole fertilizer industry today. The other three plan to produce high analysis nitrogenous fertilizers, like ammonium phosphate, ammonium nitrate, nitrogen solutions.

Substantial exports into U. S. figure prominently in the expansion plans of at least five of these projects. Historically Canadian fertilizer producers are about as efficient as any in the world and their products are among the few that can still enter the U. S. duty-free.

The whole fertilizer business is set up to produce the three basic plant foods — nitrogen, phosphoric acid (phosphates) and potassium (potash). The production of these from nature in increasingly concentrated form and at prices the farmer can afford to pay is the No. 1 concern of the fertilizer industry today.

It will mean a continuing program of plant expansion, likely increased use of natural gas both as a source of hydrogen and sulphur.

It will almost certainly mean bold expenditure moves before long on what might appear economically marginal projects for recovery of phosphates and potash from known Canadian sources.

Perhaps more than anything it will involve stepped-up education programs in which industry, government and agricultural associations must work even more closely together toward a common goal to boost yield per acre of agricultural products in this country.

In Canada the fertilizer buying habits of many farmers have varied directly with crop revenue — declining with poor prices or crop failures, rising to new peaks with good crop returns. This pattern must be broken by a more effective educational program, fertilizer people claim. An average farmer just can't afford to cut his fertilizer purchases and particularly when farming operations become more marginal.

On his part the chemist — and fertilizer mixing firms — is tailoring his products to the individual farmer's requirements. A steadily expanding range of fertilizer formulations are becoming available to suit the varying soil demands of different regions. The biggest feature in the whole fertilizer field is the continuing trend toward still higher analysis plant foods. More and more emphasis is being put on separate nitrogen applications — usually in anhydrous ammonia or nitrogen solution forms — followed by application of a complete fertilizer formulation.

Ontario Try

This year for the first time a real selling job is being done in southwestern Ontario on direct application of nitrogen solutions and/or anhydrous ammonia to the soil. Canadian subsidiaries of giant U. S. chemical firms — Dow Chemical of Canada and North American Cyanamid — have both recently brought into operation new plant facilities for production of these products.

Completion this spring of a new $3 million ammonia plant at its Sarnia site gives Dow Chemical — pioneer in the anhydrous ammonia fertilizer application — a total ammonia capacity of around 100 tons a day.

Just a couple of weeks ago North American Cyanamid brought into operation at Port Robinson in southwestern Ontario its new unit for first Canadian production of nitrogen solutions. Before this all supplies were imported from U. S. in tank cars.

Both firms are pushing direct application of these two high analysis nitrogen products to the soil in southwestern Ontario cash crop areas. With the highest nitrogen content available (82%) anhydrous ammonia is the lowest cost form in which this all-important plant food can be purchased (around $200 to the ton to the farmer). Against this is the additional cost of a special applicator used in drilling the ammonia into the soil. This equipment — somewhat like a harrow — costs anywhere from $400 up. The anhydrous ammonia (is a liquid when under pressure, a gas when released into the soil) is drilled into the soil by a number of knife or chisel-like parts to a depth of 4 to 6 inches. This makes the nitrogen readily available to the plant roots.

North American Cyanamid's nitrogen solution which also has to be applied by special equipment (costs from $150 up) has a 37% nitrogen content when applied. Cost to the farmer runs around $100 a ton.

In both cases the companies sell to fertilizer distributors who maintain transportation and storage facilities. This year, for instance, Canada Packers — one of the largest fertilizer mixing firms in Canada — has constructed a large storage tank at Chatham for anhydrous ammonia. The farmers, or small distributors in turn take delivery of the product in nurse tanks (50 lbs capacity).

In turn both companies sell their product to the fertilizer mixers for processing into complete plant food formulations. The ammonia also has a dozen or so large long-established industrial market outlets.

The anhydrous ammonia is applied before seeding and is usually followed at seeding time by an application of a complete fertilizer formulation such as 0-10-10, 0-20-

(Continued on page 42)

Canadian Plasticizers for Canadian Industry

Lacquer and Plastics manufacturers in Canada now have an important addition to the products and services available to their industries.

Whatever the problem, Howards' new plant at Cornwall, Ont., will endeavour to provide the plasticizer and the technical service to solve it.

Adhesion, viscosity control, light fastness, impermeability to water, chemical resistance, and heat-sealing properties are among the problems to which we have an answer.

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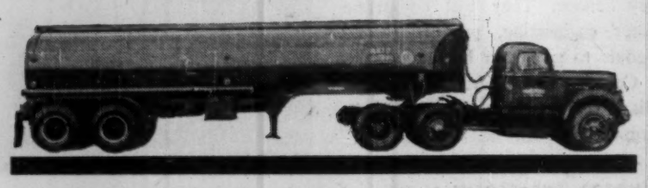

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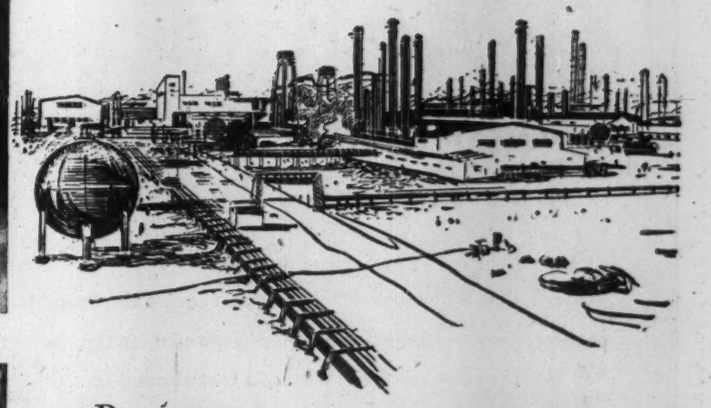
Unlocking Nature's Storehouse for Industry!

Bagging pentaerythritol for shipment.



Box-loading cellulose acetate flake.

Loading a tank car with liquid chemicals.

PROCESSING the hydrocarbons found in Alberta's generous bounty of petroleum resources to form industrially-useful organic chemicals — converting pulp from the trees of British Columbia's forests into cellulose acetate flake, yarn and staple fibre — these are ways in which the 200-acre Edmonton plant of Canadian Chemical Company, Limited is helping to develop nature's resources, creating new wealth for Canada.

CANADIAN CHEMICAL COMPANY, LIMITED

An Affiliate of Canadian Chemical & Cellulose Company, Ltd.

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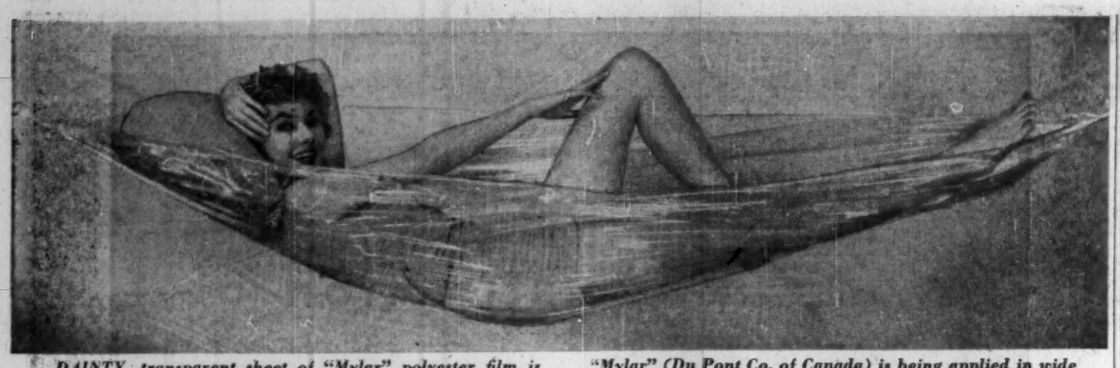

DAINTY, transparent sheet of "Mylar" polyester film is made from new plastic material with a tensile strength of up to 23,500 lb. per sq. in., one third that of machine steel; the film in the hammock is only one thousandth inch thick.

"Mylar" (Du Pont Co. of Canada) is being applied in wide variety of products ranging from electrical insulation and sound-recording tape to transparent packaging.

Sulphur-Uranium Form a New Team

Big New Demand, Major Plant Growth Ahead for Sulphur

The rapid emergence of Canada as one of the leading world uranium producers will have a major impact on the chemical industry in this country and particularly the sulphuric acid picture.

The acid leach process for recovery of uranium using sulphuric acid as the leaching agent has been found the most economical process for most Canadian mines. But since uranium has a habit of hiding itself in backwoods districts, far from existing plants, it means construction of new acid plants close to the mining operations.

Gunnar Mines, the first of the postwar uranium properties to reach production stage, will start first milling operation during September at its Beaverlodge property in Northern Saskatchewan. The company has recently completed a $1 million sulphuric acid plant close to the mine site. This will supply the all-important acid requirements. Elemental sulphur, recovered from Alberta sour gas fields by two oil companies, Shell Oil Co. of Canada and Royalite Oil, will be transported to the plant where it will be converted into acid. It is estimated that Gunnar's acid requirements will run around 35,000 tons annually.

Plans are now just about complete for the second big acid plant to serve new Canadian uranium fields. This will be one of the largest acid plants in Canada and it will be located near the famous Blind River, Ont. uranium camp. This multi-million-dollar, 500-ton-a-day plant will supply the acid leach requirements of the entire Blind River camp. Already four projected milling operations are set up for the camp (three for the Algom Uranium and associates and one for the huge Consolidated Denison ore-body). The camp will start out milling around 12,000 tons daily.

Noranda Mines entered the most attractive bids to build the acid plant. In all there were some six different organizations bidding to build and operate the acid plant. Noranda will use pyrites, in plentiful supply in the Rouyn area of Quebec, as a source material for sulphur. Officials are believed planning to duplicate their unique Port Robinson, Ont. plant which also uses Rouyn pyrites and besides turning out acid produces substantial quantities of elemental sulphur and high grade iron sinter. Since the plant will be located on deep water navigation and rail transportation it can transport its iron to Great Lakes steel mills and sell its sulphur to pulp and paper mills in the area.

The Blind River camp is rapidly lining up as the largest uranium camp in the western hemisphere. Acid requirements will be large and spread out over many, many years.

Canadian Industries 1954 Ltd. was a strong contender to supply the acid requirements of the Blind River camp from its Copper Cliff workings. CIL 54 would have had to build a new acid plant at Copper Cliff and arrange for substantially more sulphur fumes from International Nickel Co.'s new pyrrhotite mill soon to start operating.

Bancroft Next?

With the search for uranium now spreading out over many parts of Canada and a record number of drills operating on the fringes of the two big camps — Blind River and Beaverlodge — discovery of new orebodies, and development of more new mines, is highly likely. One of the other most promising uranium camps, and a likely candidate for an early mill, is the Bancroft district of Central Ontario.

The next biggest impact on Canada's sulphur and acid picture will come from construction of a trans-Canada natural gas line from Alberta eastward to Ontario and Quebec. One of the major gasfields that will be hitched onto the pipeline will be the big Pincher Creek field of Canadian Gulf Oil Co. in southern Alberta. This is a sour gasfield high in sulphur content. To prepare the gas for movement through the pipeline will mean treating it for recovery of practically all of its sulphur content. On the basis of the planned movement of gas out of this field there could be a sulphur recovery of 400-600 tons a day.

Although there are several other sour gas fields that will have to be treated for sulphur recovery in the province, such as the Okotoks field of Shell Oil, etc., none of them would produce the high sulphur returns of the Pincher Creek field.

No one can see a prairie market for this volume of sulphur or the acid available from it, at this stage of development. Nor can the sulphur stand the long transportation across half a continent and lay down competitively with imported U. S. sulphur in eastern Canada. At the moment the best marketing bet seems to be in the Midwest and Northwest U. S. states which use heavy amounts of fertilizers, one of the biggest single outlets for sulphur. There is no tariff to hurdle as long as the sulphur goes into fertilizers but the Alberta sulphur would have to compete with other available sour gas sulphur for this market.

Shell Oil and Royalite Oil are both recovering elemental sulphur from gas in Alberta and both help supply the sulphur requirements of the Gunnar acid plant in northern Saskatchewan. Shell also supplies sulphur requirements of certain West Coast pulp and paper companies. These two plants produced 21,230 tons of sulphur in 1954. Shell's Jumping Pound plant has now expanded its capacity to 80 tons a day and besides supplying the Gunnar sulphur requirements will ship sulphur to the Prairies' first sulphuric acid plant, now being built by Inland Chemical Canada Co. at Fort Saskatchewan, near Edmonton. Inland Chemicals Canada — a newly incorporated company headed by Robert Campbell, B.C. businessman — is constructing a $1 million, 100-ton-a-day plant adjacent to the Sherritt-Gordon Mines nickel ore processing operation.

Sherritt will become one of the company's major customers, using the acid in processing ammonium sulphate fertilizer from surplus ammonia remaining after the ammonia leaching of metals has taken place.

A Broad Market

Practically all of the existing chemical plants in Alberta use some sulphuric acid. Other users include: petroleum refining industry, dairy industry, leather tanners, etc. Up to now nearest supply point has been two plants operating in B. C.

Western Canada's largest single sulphur user (in acid form) — Consolidated Mining & Smelting Co. — recovers its own requirements from the iron tailings available from its Trail, B.C. base metal mine. Cominco is believed the biggest single producer of acid in this country but uses practically all its own output in its fertilizer operations.

Noranda Mines' unique $4 million acid plant at Port Robinson, Ont. for production of elemental sulphur, acid and high-grade iron sinter has been operating now for some months. All of the early operating bugs have now been overcome and plant is operating smoothly, although just at a portion of its capacity rate. Reduced acid requirements of the big nearby North American Cyanamid chemical plant has forced operation slow-down. When going all out plans are to treat some 350 tons daily of pyrite concentrate shipped by rail from Noranda's own mine at Noranda, Que. All in all, the project is estimated to save Canada some 54,000 tons of sulphur imports annually. In the process some 75,000 tons of high grade iron sinter will be made available annually to the Canadian steel industry. Key to the successful operation of such a plant is plentiful supplies of high grade pyrites and relatively close market for the sulphur dioxide gas produced.

The Canadian Industries 1954 Ltd. liquid sulphur dioxide plant at Copper Cliff, Ont. is operating at a high rate of capacity and shipping at the rate of around 80,000 tons annually, mainly to pulp and paper plants in northern Ontario. The liquid sulphur dioxide is obtained from processing of highly concentrated byproduct gases from the Copper Cliff smelter of International Nickel Co.

Who Producers Are

Here is a list of the Canadian sulphuric acid producers and location of their plants:

Aluminum Co. of Canada produces some 35,000 tons annually from base metal pyrites, all for its own requirements at Arvida, Que.

Canadian Industries 1954 Ltd. produces acid at its Hamilton plant and sulphur dioxide at its Copper Cliff, Ont. plant.

Consolidated Mining & Smelting is a large producer at its Trail and Kimberley plants in B. C.

Eldorado Mining & Refining supplies its own sulphuric acid requirements for its Great Bear Lake mine at Port Radium, Northwest Territories (10,000 tons annually).

Gunnar Mines will make its own acid at its Beaverlodge mining site (35,000 tons annually).

Inland Chemicals Canada will produce acid in a 100-ton-a-day-capacity plant now being constructed at Fort Saskatchewan, Alta.

Nichols Chemical Co. — a long established acid producer — produces acid at three plants, Valleyfield, Que., Sulphide, Ont. and Barnet, B.C.

Noranda Mines will produce acid at its proposed new Blind River plant as well as producing sulphur dioxide gas (which is later converted into acid by North American Cyanamid) at its Port Robinson plant.

North American Cyanamid produces sulphuric acid, some for its fertilizer requirements, some for sale, at its Port Robinson plant.

Dominion Steel and Coal produces some 11,000 tons annually at its Sydney steel works.

Record Production

Total annual Canadian acid production is running close to one million tons a year and of this about 75% is being used captively by the producers themselves, most of it in making fertilizers.

Canada's 1954 production of acid amounted to a record of 923,000 tons, up 12% from previous year. This is some 40% above best wartime output rate. Major consuming industries in order of size in Canada are: fertilizers running around 60% of total output; heavy chemicals, coke and gas; textiles; iron and steel; explosives; non-ferrous metal smelting and refining; soaps; plastics; pulp and paper; petroleum refining and electrical apparatus.

Production of elemental sulphur amounted to 21,300 short tons in 1954 compared with 16,000 tons in 1953. All of this was recovered from natural gas. Total imports — mainly for use in pulp and paper industry — amounted to 310,127 tons. Despite the progressively higher operating rate in the pulp and paper industry this import figure has been declining since 1952, reflecting increasing acid and sulphur output in this country.

Sulphuric acid consumption has long been looked on as one of the best barometers of any country's industrial health. No chemical is so essential to such a broad range of basic industries. Steel, textiles oil refining, chemical fertilizers, pulp and paper, explosives, rubber, are just a few of the industries requiring acid somewhere in their varied operations.

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Each day new fields open up to the vast potential uses for Alberta's wealth of natural resources. Alberta has what industry needs. Write for specific information on industrial inquiries.

1905-1955 50 GOLDEN YEARS

GOVERNMENT OF THE PROVINCE OF

ALBERTA

DEPARTMENT OF MINES AND MINERALS

HON. E. C. MANNING, Minister

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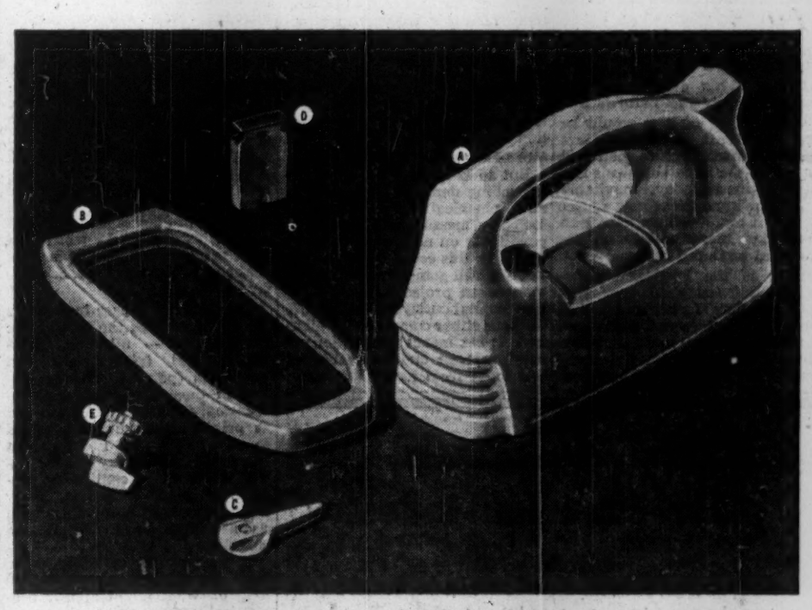
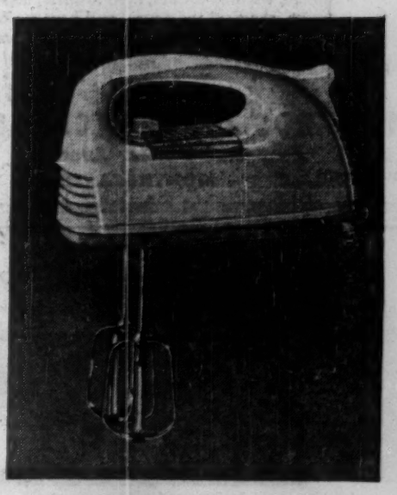


Why five plastics were used in one food mixer?

C.G.E. has discovered that in most instances a combination of plastics turns out the finest, yet most economical, finished product. For instance five different plastics properly molded were used to produce this popular food mixer.

There are many advantages in having C.G.E. solve your plastic molding problems. We have the facilities to fabricate any type of plastic material and the know-how as to what plastics to use. Call C.G.E. Plastics Advisory Service. They will co-operate with your engineering, production and sales people to give your line added sales punch. Contact: Plastics Advisory Service, Canadian General Electric Co. Ltd., Cobourg, Ontario.



A—MOTOR ENCASEMENT in Hercocel Acetate. Fire and break-resistant . . . gleaming white finish. Resists food and fruit juice stains.

B—GASKET in Vinyl Plastic. Had to be exceedingly flexible. Resistant to oils and fats . . . easily cleaned.

C—EJECTOR LEVER in Urea Plastic. Very sturdy . . . in white . . . shows no wear though beaters are inserted and ejected constantly.

D—SWITCH BASE in Phenolic Plastic. Low cost . . . high dimensional stability . . . noted for its electrical properties.

E—CONTROL KNOB in Hy-impact Polystyrene Plastic. Very tough . . . in white . . . ideal for this part that is frequently handled. Low in cost.

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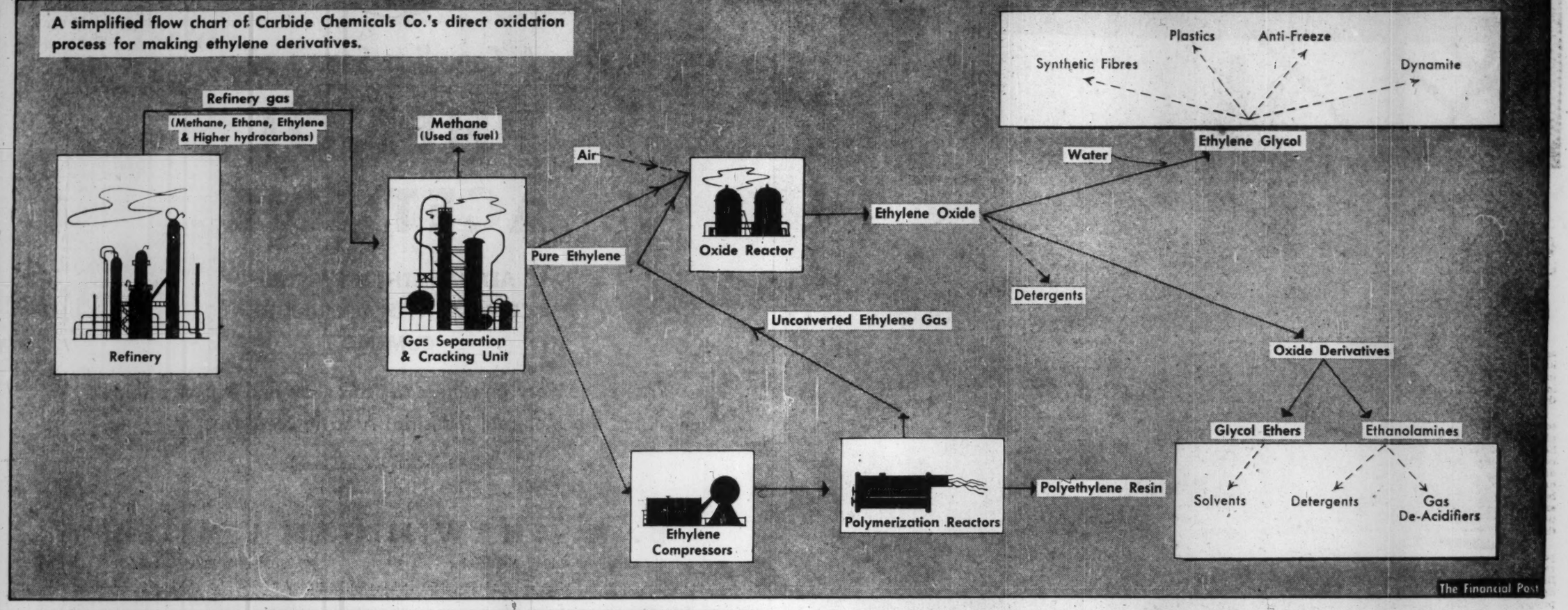
CANADIAN GENERAL ELECTRIC COMPANY LIMITED

Chemical Magic: The direct highway from refinery gas to consumer products



This flow chart tells the story of Carbide Chemical Co.'s direct oxidation of ethylene. (Carbide is the first company to use the technique in Canada.) With this basic process the Canadian subsidiary of the Union Carbide giant plans to build up a multiproduct operation at its Montreal East petrochemical plant.

As markets warrant this ethylene raw material can be processed into more and more complex chemicals. Advancing along this broad ethylene highway the parent company now produces close to 300 different chemicals — most of them still not produced in Canada — chemicals that move into every major industry, hundreds of consumer items.

The starting point for all this is ethylene, contained in refinery gases. The ethylene is recovered from the gas stream in a special separation and cracking unit. One stream of pure ethylene forms the raw materials for the fast-expanding plastic, polyethylene. The other — along with some unconverted ethylene from the polyethylene processs — reacts with oxygen from the air to form ethylene oxide. As a chemical this compound is quite a polygamist, ready to "marry up" with a range of molecules and produce a large flock of offspring.

Just a few of these — shown here — are ethylene glycol which is used in anti-freeze, dynamite, plastics, synthetic fibres, etc.; and such oxide derivatives as glycol ethers and ethanolamines.

The other process used in this country to produce ethylene derivatives is the chlorhydrin process — using chlorine. This is the process used by Dow Chemical of Canada at its Sarnia plant. It's a desirable process in the case of Dow Chemical whose plants are situated on extensive salt beds and who has a ready market for its chlorine and chlorine derivatives.

No Bottom To The Petrochemical Pot

New Products, New Uses Are Surging Into Home, Industry

Petrochemicals—glamour girl or problem child?

Dozens of exciting new products from streams of invisible hydrocarbons—and the multimillion dollar teething problems of an entirely new Canadian industry.

This is petrochemicals, fastest moving branch of the chemical industry today; an industry that has sprung up from virtual nonexistence in this country at the outbreak of World War II to a $300 million string of 16 plants today.

Output from the futuristic-looking plants is moving into dozens of applications in the average Canadian home; is providing more and more of the basic raw materials for every major industry in the country.

Phenol, isopropyl alcohol, pentaerythritol, polyethylene, Terylene—are just a few of the unfamiliar products of a still unfamiliar industry. They are making their bows to Canadians in dozens of unrecognized forms, in paints, plastics, synthetic detergents, synthetic fibres, fertilizers, explosives, pharmaceuticals, etc.

In time the string of new plants now coping with the inevitable initial marketing problems could exert more impact on the Canadian economy than any other group of associated plants ever brought into production in this country.

They will not only mean savings of millions of import dollars annually, but will bring about establishment of a group of new secondary industries based on the plentiful supply of raw materials.

Petrochemicals have featured postwar chemical growth all over the world. But in Canada where the growth has coincided with discovery and development of major new oil and gas fields and an unprecedented inflow of international investment capital, the expansion record has been phenomenal.

But it has taken a lot of courage, as well as dollars, for the chemical leaders to sanction such a wild postwar spending spree on new plants to turn out products never before produced in this country. In practically every case to be economic the plants have had to be built with a designed capacity at least as large as the entire domestic markets; in some cases far beyond this. But with the biggest chemical giant in the world to the south and only moderate tariff protection—or in case of new products no guarantee of tariffs at all—there has been no assurance that they would be able to capture even a fair slice of the home market.

The most modern plants, know-how, in many cases association with big U.S. organizations, have been tremendous aids. But even with this it has been obvious that competition would be keen from the start—and could get a whole lot keener when surplus capacity built up in the U.S. chemical industry.

For instance, the $15 million polyethylene plant of Canadian Industries 1954 Ltd. at Edmonton with a designed capacity considerably beyond total current domestic requirements has had to fight stiff U.S. competition from the start. With only a 7½% tariff protection from the huge producers to the south and huge surplus coming on stream in U.S. over the next two years officials look to heavy competitive going ahead. Situated in the midwest to be near low-priced raw materials the company enjoys no transportation advantage to the big eastern market over the main U.S. suppliers.

A knock-down market fight on ethylene-glycol in U.S. between two of the biggest producers which drove prices down 50% in two years rendered operations virtually impossible for the two Canadian producers—Dow Chemical of Canada and Dominion Tar & Chemical. Subsequently a strong plea was put into Ottawa for some tariff protection and in the meantime Dominion Tar & Chemical dropped out of the unprofitable race selling out to Union Carbide Canada which company is now installing what it considers a much more economical process. The recent 10% tariff protection awarded by Ottawa should bring some measure of relief.

The biggest of the postwar

(Continued on page 46)

How many bottlenecks do you have?

HOW MANY valves are involved in your plant operation? How many are really dependable? Actually it's here in the piping where many a production bottleneck hides. And it isn't just the major breakdowns that affect your production. Those little but frequent shutdowns for maintenance mean a down machine here, a slowed-up operation there—important losses when you add them up.

Here, then, is one place where top-quality equipment belongs . . . stronger, longer lasting valves and fittings that require a minimum of maintenance. And to the thrifty buyer, that means Crane valves and fittings, proved more suitable, more dependable year after year —in plant after plant.

For complete information on the Crane Valves to meet your particular requirements, ask your Crane representative, or Crane Branch—or write

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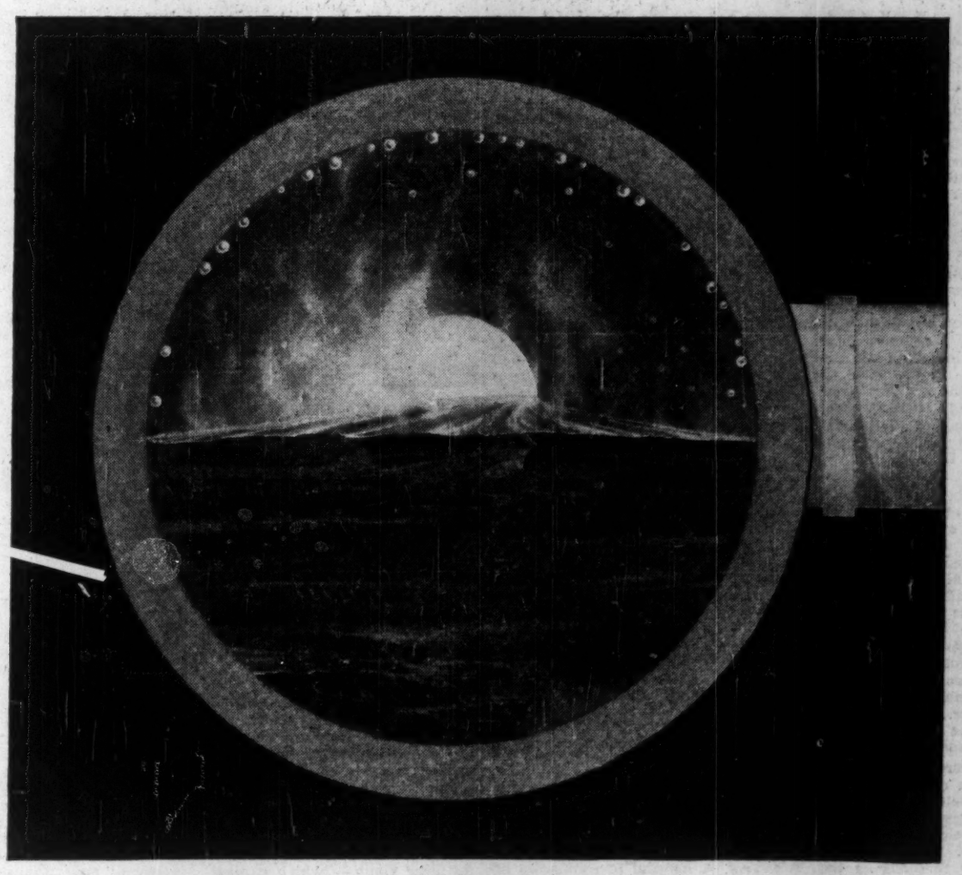

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It is a film one molecule thick. Filmeen* in steam or condensate lines produces a monomolecular film.

But, there's a lot more to it than thickness. The film's most important function is protection against corrosion. By forming a nonwettable coating on all metal surfaces with which treated steam or condensate come in contact, Filmeen provides a protective, corrosion-inhibiting barrier between water and metal. In heat exchange equipment, the condensed steam treated with Filmeen then forms as spherical drops of water which resist adherence to the film surface, much the same as a drop of water will form into a small ball on a waxed surface. This phenomenon results in increased rate of heat transfer—which in turn saves money in power plant operation.

When steam condenses on untreated return lines, it forms a continuous layer of water that restricts heat transfer. You don't want that... it raises the cost of heat.

Your Dearborn sales engineer will gladly explain how Filmeen can keep your heating costs in line.

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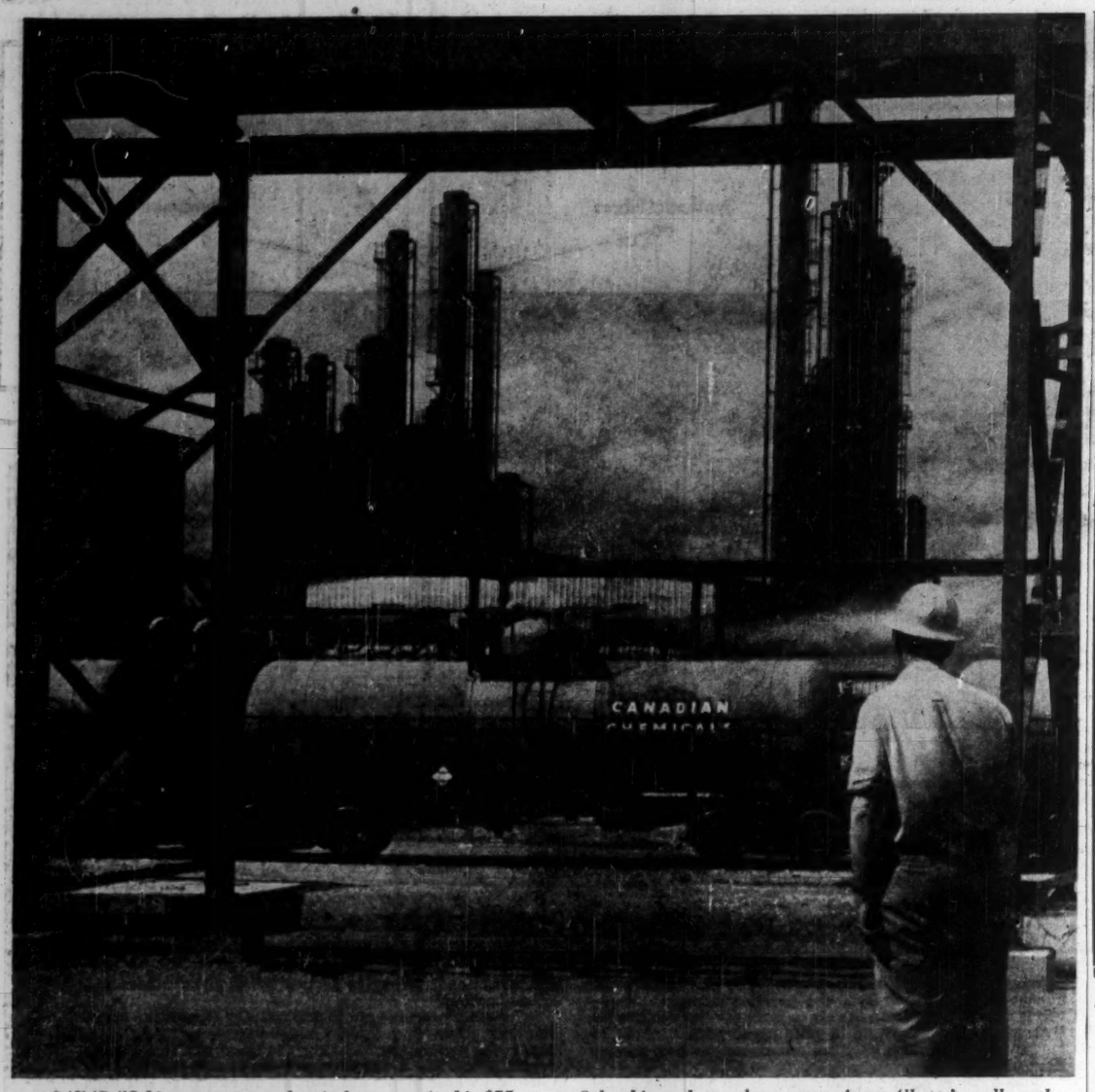

CANADA'S biggest postwar chemical venture is this $75,-million operation of Canadian Chemical Co. at Edmonton. As raw materials it uses high alpha pulp from British Columbia and petroleum gases from Alberta's wells and refineries. Products: about a dozen industrial chemicals, cellulose acetate, and acetate staple fibre and filament yarn.

Phosphates: Industry's Aide

This Chemical Becoming Part of Daily Living

Phosphates, one of the three basic plant foods, is fast becoming a major item in man's everyday living. From detergents and matches to refining of uranium, phosphates use is spreading out over a broad range of industrial and consumer applications.

In line with this fast-stepping growth picture Canada's biggest supplier of the chemical for use in industry—Electric Reduction Co. of Canada—is expanding at just as fast a clip. Although "Erco" brought a new plant unit at Buckingham, Que., on stream late last year for first Canadian production of a new phosphate compound, domestic demand has now swamped the plant capacity and a larger plant has now been designed and will be built later this year.

The new product—sodium hexametaphosphate—goes into dishwashing compounds, dispersal agent in clay slurries for paper coating, as a corrosion inhibitor in brine solutions used in refrigerator cars, etc.

Phosphates growth picture in synthetic detergents—its biggest volume industrial outlet—is even more impressive. Back in 1946 the synthetic detergent business was small in this country and consumption of polyphosphates was almost negligible. But by 1953 this had zoomed to around 28,200 tons a year at a cost of around $5.3 millions.

Erco's $5 million plant at Varennes, Que., built in 1953 has an estimated capacity in the order of 40 million lb. of phosphorus a year. The plant is reported operating at an expanding production rate. Although the rapid postwar climb in synthetic detergent use now shows signs of leveling off somewhat, production is still upward.

To promote its use in the pulp and paper industry Erco recently made an arrangement with Olin-Mathieson, big U. S. chemical organization, whereby Erco could offer a complete engineering service, including design and operation, on the Mathieson chlorine dioxide generator. Sodium chlorate is also used in refining of uranium and as a weed-killer.

Electric Reduction Co. of Canada sales in 1954 were up over previous year by "an appreciable margin," Dr. Jones, president, told The Post. Falling prices, however, and higher costs combined to reduce profitability. Outlook for 1955 is for increased sales but with lower returns.

Elixir for Soils

(Continued from page 39)

20, 4-24-20, 2-24-20, etc. (the proportions are always in this order ... nitrogen, phosphate and potash). Direct application nitrogen has already been used on such cash crops as corn, sugar beets, wheat, pastures, etc. in southwestern Ontario.

Push Direct Application

But now the phosphates and potash producers are experimenting with the direct application method too and pushing the idea of application of a balanced plant food — including all three nutrients — at the same time. In Canada Electric Reduction Sales — big producer of specialized phosphates for industrial use — has plans to enter the phosphate fertilizer field and is working on the direct application idea.

In adding 50,000 tons ammonia capacity at its Calgary ammonia works Consolidated Mining & Smelting is putting itself in a strong position to meet the trend toward high analysis nitrogen type fertilizers. Cominco for the first time is selling anhydrous ammonia, ammonium nitrate and phosphoric acid solutions into the Pacific Northwest U. S. and with extra ammonia capacity will now be in a position to step up these shipments. Company is now also marketing a new high analysis formulation — 27-14-0.

Considerable interest has been raised in chemical circles lately over development of a new idea in nitrogen-type fertilizers by the Polychemicals Dept. of the du Pont Co. The novel feature of the new fertilizer is that it is claimed to release adequate nitrogen for plants continuously and uniformly throughout the growing season. It is said to combine a high (38%) nitrogen content with a prolonged release rate, never before achieved in any nitrogen fertilizer.

In the increasingly competitive fertilizer business Canadian manufacturers are looking much more closely than ever before at known sources of potash and phosphate in this country. Neither of these two plant foods are currently being produced here. Consolidated Mining & Smelting, for instance, imports phosphate rock from its own deposits in Montana and Canadian Industries 1954 Ltd. imports the rock from Florida. Total imports of around 600,000 tons annually represent some $4 millions. The freight cost is particularly heavy since most of the rock imported represents waste material. To recover the phosphate out of the rock it is treated with sulphuric acid. The resultant product can be used by itself as superphosphate or compounded with ammonium to produce ammonium phosphate.

But here's where the trouble comes in for the Canadian producer: The demand for more and more concentrated plant food now calls for phosphate of triple strength form: three times the concentration of superphosphate. To make that would mean importing three times as much rock from as far away as Florida — and that means three times as much waste material. This would render Canadian suppliers noncompetitive with U. S. producers.

This makes domestic fertilizer people more ready than ever to look at anything that appears like a reasonable phosphate bet in Canada. One proposition that has been considered carefully is a large magnetite-apatite-columbium ore occurrence at the Nemegos, Ont., property of Multi-Minerals Ltd. Apatite is the mineral form in which phosphate is found in this deposit. There is little doubt that there is sufficient tonnage here to justify a multi-million-dollar milling operation. The questionable point is a metallurgical one — can the apatite be recovered readily from the hematite and columbium? Canadian Industries 1954 Ltd. officials have looked extensively at the whole proposition.

Hopes for Potash

Potash from deep beneath Saskatchewan plains may soon supply the answer to one of the big plant-food problems in this country. A handful of companies are in Saskatchewan's potash picture at the moment. Variously, they are working on shafts, drilling, planning to drill. Most hopeful news development in recent weeks has been announcement that Western Potash Corp. and F. H. McGraw & Co. of New York are currently working on a $17.5 million financing deal to bring Western Potash's Saskatchewan property into commercial production. Plans are to produce at a minimum initial rate of 1,000 tons a day of finished product.

The potash deposits have already been proven to be very extensive. In the Unity area beds have been discovered at 3,466 ft depth. There is no doubt that mining from this depth will be an expensive proposition and this is the main reason why no company has made the final go-ahead decision as yet. But North American potash reserves are being rapidly depleted without any major new occurrences being discovered in recent years outside the Saskatchewan deposits. It is almost certain that these deposits will be mined. The question is when. Some fertilizer people say within the next couple of years.

There is a good chance, however, that the mounting consumption in Central Canada and the Maritimes of phosphates will continue to be met from foreign sources for some time yet.

But it is far from a one-sided trading picture. Canada's industry has become the second largest exporter of nitrogen fertilizers in the world. Protected as they are by distance and the bulky nature of their products western Canadian plants are in a strong competitive position to meet the rising needs of the Canadian prairies, British Columbia and the central and western U. S.

Plants at Trail, Calgary and Kimberley enjoy the advantages of cheap raw materials and an abundant supply of low cost fuels and electric power. At the same time it is obvious that Consolidated Mining & Smelters is in for sharper competition in the Pacific northwest. At least two new U. S. plants are slated to go up — one in Utah, another in Oregon. But Cominco officials feel confident that as long as the border remains tariff-free their company will continue to command a major share of this market.

Along with North American Cyanamid — the other Canadian fertilizer giant — which exports cyanamid from its Niagara Falls plant, total exports are running around 700,000 tons a year, most of which goes to U. S.

Exports May Climb

There is a good chance that Canada's fertilizer exports are going to take a fairly sharp boost over the next couple of years, as a result of two proposed new fertilizer plants for the prairies. Northwest Nitro-Chemicals plans to break sod for a new $23 million fertilizer plant at Medicine Hat late this month. To produce high analysis nitrogen and phosphate chemical fertilizers company expects to get into production in latter part of 1956. Commercial Solvents Corp., New York, and New British Dominion Oil Co., Calgary, will share controlling interest in the new project. Commercial Solvents will operate the plant under a long term management contract.

The plant will be supplied with natural gas (for its hydrogen content) from the Etzikom gasfield of southern Alberta. New British Dominion owns approximately 65% interest in the field and Midcon Oil & Gas the other 35%. Phosphate rock will be imported from U. S. Company plans to market its output on the prairies and in the U. S. midwest.

Canadian Hydrocarbons, a newly formed company by Winnipeg & Central Gas, has been set up to engage in various hydrocarbons enterprises. Among proposals is a synthetic fertilizer plant in which the company will take a large investment interest—$1.5 millions. Plans drawn up for the company propose a 600-ton daily output of mixed fertilizers including approximately 80 tons of fixed nitrogen. Plant is estimated to consume some 5 million cu ft of natural gas daily. Although location is not fully decided yet Winnipeg is the most likely site. The plant will operate on natural gas from the proposed trans-Canada pipeline but could use residual fuel oil, or even propane, if priced right. There has been no definite plans set yet on actual construction program.

Further east two plans are drawn up for early start on new ammonia plant projects — one by Canadian Industries 1954 Ltd. and the other by Quebec Ammonia Co. CIL '54 has advanced plans to construct the largest ammonia plant in eastern Canada — close to 200 tons capacity daily — at Millhaven, near Kingston, Ont. Company would use a substantial portion of its output in its own varied chemical operations particularly in processing explosives and fertilizers. Location on Lake Ontario provides excellent Great Lakes transportation both for raw materials and finished products. Hydrogen supply will be derived from heavy fuel oil. Operations could, however, be shifted over to use of natural gas if available and priced attractively.

Lummus Corp. of Canada has been awarded the contract to construct the ammonia plant of Quebec Ammonia. Varennes is thought the most likely site being considered. Plans call for a 125-ton-daily ammonia plant along with a nitric acid and ammonium nitrate plant capable of converting one half the output to nitrogen solutions. Plant expenditure is expected to be in the neighborhood of $7.5 millions. Company is headed by Robert Campbell, west coast financier.

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Chemical Bug War Ups Yield

As a result of stepped-up research programs chemists are now able to direct their chemical warfare with more deadly effect than ever before at the thousands of varieties of pests that combine each year to rob Canadians of the fruit of their land.

Though an average 12 million acres of cereal crops are being treated each year in this country for weed control Canada still loses millions of dollars on the 35 million acres left untreated.

Estimating that crop yields are cut by at least 10% in this country every year by weeds, a government agricultural expert places dollar loss at around $131.5 millions. Against this the amount food growers are spending on counteracting weed problems looks woefully inadequate—an estimated $7.5 millions annually (DBS figure was $6,048,819 for 1952).

"The marvellous developments which have taken place in herbicides and equipment are of comparatively little value if they are not accepted and used. Says E. G. Anderson, Associate Botanist and secretary, National Weed Committee, Botany and Plant Pathology Laboratory, Canada Dept. of Agriculture.

"It has been estimated that the annual loss due to weeds could be cut in half, if we can only persuade every farmer to make full use of the chemicals we already have and apply the knowledge which we already have well tabulated."

The research laboratory of every agricultural chemical firm has a number of exciting new formulations up its sleeve; new pesticide products that are being put through exacting tests preparatory to applying to Ottawa for federal registration.

Here are just a few of the new products on the market today:

Endrin is a new chlorinated hydrocarbon which controls all the common potato insects, also sugar beet webworm and aphids. It is effective at low dosages.

Heptachlor is another chlorinated hydrocarbon and is extremely effective controlling soil pests.

Antibiotics is one of the most promising new developments in the pesticides field at the moment, They have been found effective in controlling many bacterial diseases for which there has been no control in the past. In Canada, for instance, streptomycin is now recommended for control of fireblight of apples and pears. In U. S. it has also received federal approval for use in controlling wildfire and blue mold of tobacco and blackleg of potatoes.

DVP and Chlorthion are promising new insecticides of the phosphate type.

Amino Triazole and Natrin are two new herbicides which show promise. The former is being tested for control of perennial weeds such as Canada Thistle and Quackgrass, and Natrin seems to be the answer for weed control in established transplanted crops such as tomatoes, cabbages, tobacco, flower gardens, etc.

But it is prolonged and often disheartening work for the agricultural chemist. Sometimes new pesticides that seem to be the answer to the food grower's problem, fail dismally under certain climatic conditions; or after a couple of years is found to be affecting the beneficial crops around it.

One of the major unsolved problems is control of wild oats in Western Canada. Researchers are eagerly looking for the solution to this weed scourge and are testing various chemicals for this purpose. Thus far, isopropyl N-phenyl carbamate has shown effective control when applied in the fall. But the residual effect on spring seeded grain is not yet known.

Another major weed problem yet to be effectively controlled by chemistry is wild carrot in Ontario. Here again several promising formulations are now being tested; and one or two already provide partial control.

The placing of a new pesticide on the market often involves a long and expensive process. The initial chemical formulation is developed by the chemical company. This company also undertakes the task of testing the product in the field as well as testing it for its toxic effects on fruit, vegetables. This program, allowing for trial and error, can amount to $1 million or more as the development cost of one pesticide.

Once the chemical company is satisfied that it has produced an effective and safe product it is submitted to the Plant Products Division of the federal Dept. of Agriculture which administers the Pest Control Products Act.

In making its assessment before endorsing a product for registration, the department not only considers the data submitted by the manufacturers but also consults the different scientific sections of the Government that can help in its decisions.

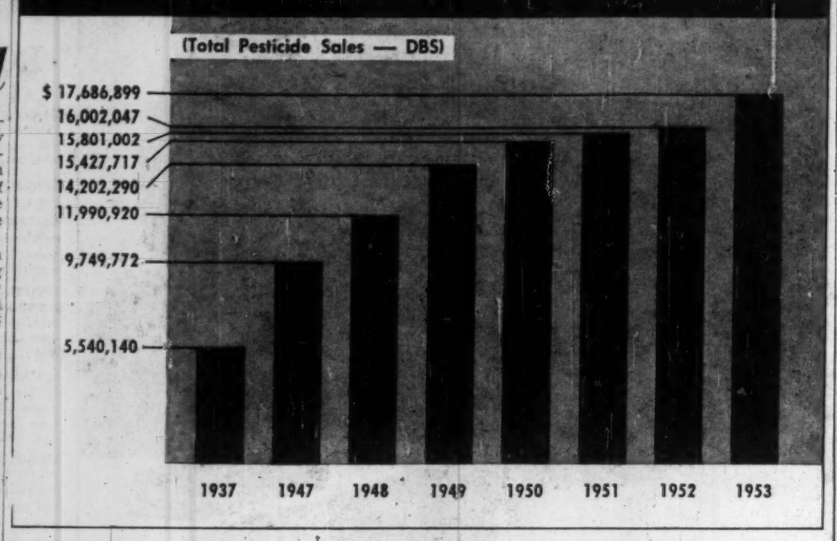
The question of assessing the human or animal health hazard in connection with new pesticide is an extremely difficult one, government experts state. Any toxic substance may hold some health hazard, but the question often resolves itself into the matter of degree. Animals or humans that ingest DDT do store some of the material in their tissues. But even abnormal exposure to DDT results in tissue deposits which are only a very small fraction of the amounts necessary to produce any ill effect on health.

The rule of "better safe than sorry" in some instances can only be applied to a point. For instance some years ago there was doubt as to whether aldrin was sufficiently non-toxic to justify registering it for grasshopper control. Then a serious grasshopper menace developed in the West which threatened serious crop loss unless aldrin was used. Its use then was permitted under certain restrictions, and since that time it has been registered for more general use.

Recently to check up even more closely on the possible toxic effect of new pesticides Ottawa is now requiring basic manufacturers to supply exhaustive details on residues of the new chemicals on food crops.

Although majority of the herbicides being used in Canada today are of the 2, 4-D type the number of other types has increased rapidly in past four years. Total number of products registered for sale in Canada in 1950 stood at 212. As of May 1 of this year the number stood at 282, an increase of 39 over last year.

Canada's Annual War on Weeds, Insects



Today's Shakespearean Actors Are Wearing Plastic Armor

A new costuming material will make its debut when Fiberglas reinforced plastics appear on stage at the opening of the Stratford Shakespearean Festival on June 27.

In the opening production of Julius Caesar three of the principals and a group of Roman soldiers will be encased in armor — authentic in every detail as to shade, fit and form, but fabricated of a modern material which would have been welcomed by the ancient Romans who rarely knew freedom from their hot, heavy garb of steel.

Protection from most of the blows the weapons of that day could project, would have been afforded by the lightweight Fiberglas reinforced plastic gear their counterparts will wear nearly 20 centuries later.

Each glass fibre strand, although 15 times as fine as human hair, surpasses the tensile strength of a strand of steel of the same diameter. Formerly felt was used to make these costumes. Each piece required four or five days to make, absorbed gallons of paint and produced gallons of sweat. Now the pieces can be formed in an hour's time, and are less costly from the standpoint of both labor and material.

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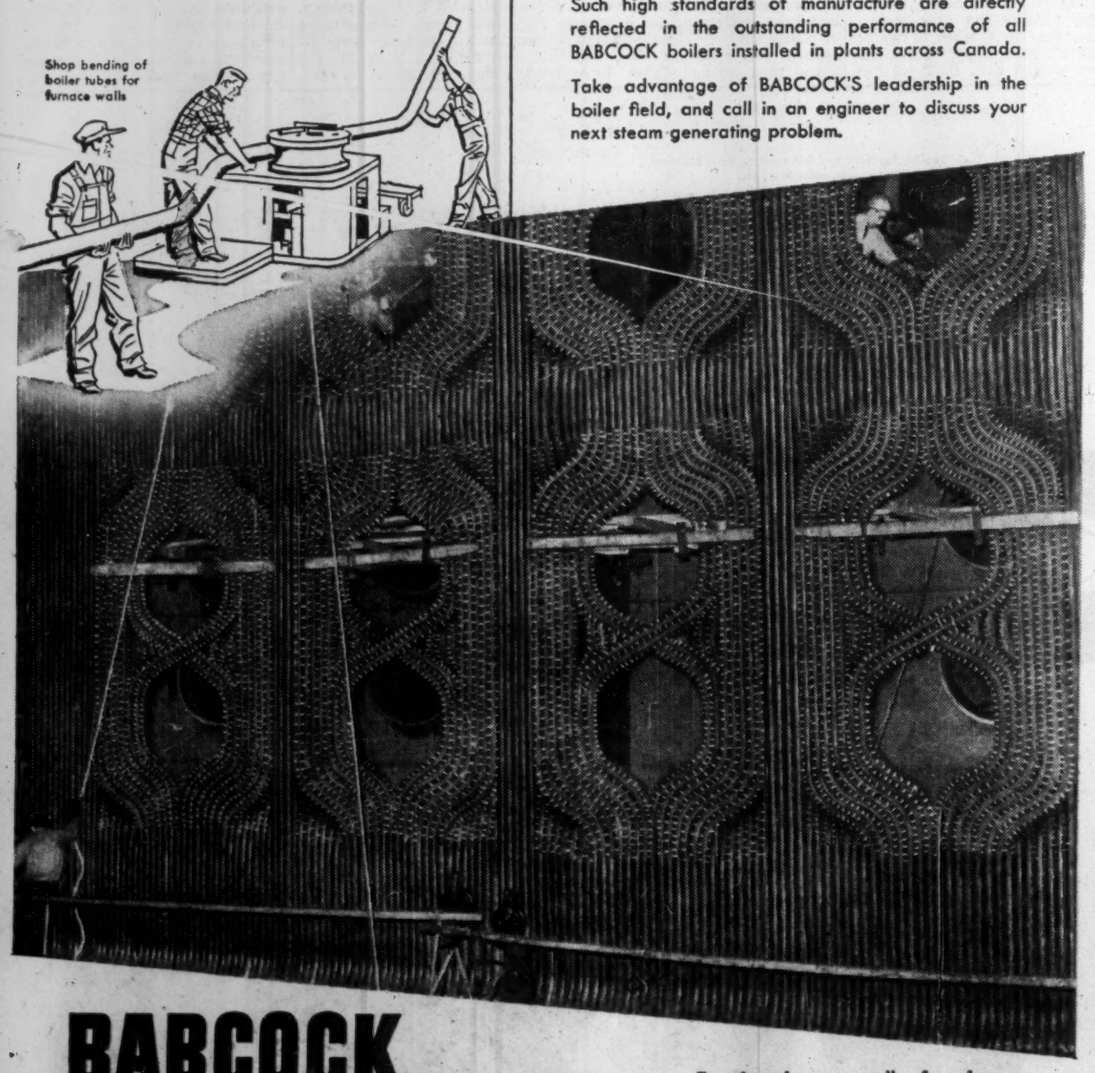

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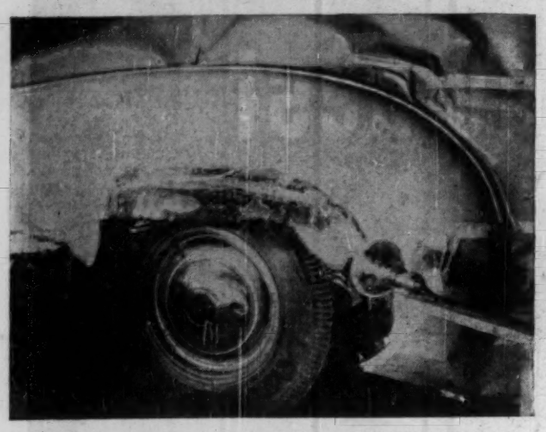

SAVINGS of as much as 70% in the auto body repair costs by patching sheet metal with Bakelite epoxy resins reinforced with Fiberglas cloth enhances the trade-in and resale value of used cars. A leading manufacturer of low-priced automobiles developed the economical new method to aid local dealers in repairing rusted-out and dented panels at minimum cost in materials, time, labor and equipment. Packaged by Arndt-Palmer Laboratories of Canada Ltd., Windsor, the durable Bakelite epoxy resins combine with Fiberglas cloth to make strong, long-lasting auto body repairs. Based on Bakelite epoxy's obstinate adherence to metal, the glass cloth reinforced patching material obtains a strength and durability usually greater than that of the metal surrounding the repaired area. As simple as patching a pair of torn pants, the new repair method requires only seven easy steps and about an hour's time to complete for most repairs. First, the repair area is cleaned with a solvent and by sanding to remove loose scale, rust, paint, grease and oils (top left photo). While this area is being heated under ordinary household type heat lamps, Bakelite epoxy resins are mixed with their hardeners and patches of glass cloth are cut large enough to overlap the repair area (top right photo). Glass cloth saturated in the resin mix is applied in successive layers over the area and then heated under the infra-red lamps to cure the resin and harden in about 15 minutes (bottom left photo). Using a disc sander and file the surface of the Bakelite epoxy-glass cloth laminate can be ground down to conform with the contour of the surrounding area (bottom right photo). Paint can be applied in the same manner as with the metal surface being repaired. Shell Oil Co. of Canada is also a major supplier of the popular epoxy resins.

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LEATHER: BECKOSOL alkyd resins (for leather finishes); PLYOPHEN resorcinol-formaldehyde resins, SUPER-BECKACITE pure phenolic resins, SYNTHE-COPAL ester gums (for leather adhesives).

LINOLEUM: BECKOSOL alkyd resins and PENTACITE pentaerythritol resins (for linoleum coatings); RCI inorganic chemical pigment colors.

PAINTS, VARNISHES AND LACQUERS: BECKACITE (1) fumaric, (2) maleic and (3) modified phenolic resins; BECKAMINE urea-formaldehyde resins; BECKOLIN synthetic oils; BECKOPOL modified phenolic resins; BECKOSOL (1) phenolated, (2) phthalic-free, (3) rosin modified, (4) pure drying and (5) pure non-drying alkyd resins; KOPOL processed Congo copals; PENTACITE pentaerythritol resins; STYRESOL styrenated alkyd resins; SUPER-BECKACITE pure phenolic resins; SYNTHE-COPAL ester gums; WALLKYD pure drying alkyd resins (for alkyd flat wall vehicles); WALLPOL vinyl-type copolymer latex emulsions (for latex flat wall coatings); RCI inorganic chemical pigment colors.

PAPER: BECKAMINE urea-formaldehyde resins (for adding wet strength, improving the wet rub of starch-clay coatings, and waterproofing starch adhesives); RCI inorganic chemical pigment colors (for paper coloring); STYRESOL styrenated alkyd resins (for paper coating).

PRINTING INKS: BECKACITE fumaric, maleic and modified phenolic resins; BECKOLIN synthetic oils; BECKOPOL modified phenolic resins; RCI inorganic chemical pigment colors.

TYPEWRITER RIBBONS: RCI inorganic chemical pigment colors.

WAXES AND POLISHES: BECKACITE modified maleic resins; SUPER-BECKACITE pure phenolic resins; SYNTHE-COPAL ester gums.

Chemistry Married to Pulp and Paper

Research Promises New Costs Savings, By-Products

Canada's chemical future is tied up intimately with pulp and paper.

For one thing, the mills already use vast quantities of chemicals. They account for over half the country's sulphur consumption, buy up 50% of the chlorine turned out here, 35% of the caustic soda, and substantial chunks of other items.

For another, the mills themselves are getting to be substantial chemical producers. They're branching out more and more into new products made from pulping liquors and bark, and spending millions of research dollars to speed-up this drive.

Finally, new production techniques are helping spark fresh rounds of chemical industry expansion. A case in point: ammonia.

In Canada this year, plans for several new ammonia plants have been announced, and it's clear that in some cases the planners are looking to pulp and paper as a major new market. CIL 54, for instance, expects the mills will absorb a substantial slice of the capacity of its $9 million plant at Millhaven after this gets into production next year.

Here's why:

Until five or six years ago, the standard way of making sulphite pulp was by cooking wood chips in a liquor containing calcium bisulphite and sulphurous acid. Since then, a shift has started — toward using ammonia instead of lime in this cooking process.

In United States, ammonia is now used extensively in making sulphite pulp. In Canada, three large mills have made the shift, and the changeover is expected to accelerate.

Among the advantages claimed for ammonia in place of lime are a faster cooking time, lower maintenance costs, better pulp uniformity, higher yield. In addition, evergreens like jackpine, which cannot be pulped with calcium-based liquors, can be pulped with ammonia. Finally, the waste liquors from the pulping operation can be burned, thus combatting the long-standing problem of stream pollution.

Big Market Opening

The pulp and paper industry is still not a big buyer of ammonia. But it promises to be one soon. The chemical industry is going to be ready, for it's seen this type of thing happen before, as with sodium sulphite, for instance, sales of which have been growing steadily since development of semi-chemical pulping.

Meantime, pulp and paper, a prize, $30 million-a-year customer for chemical plants, continues to exert a tremendous influence on expansion elsewhere on the chemicals front.

Some examples of its annual buying: over $8 millions worth of sulphur for use in the sulphite "cook," $6 millions of liquid chlorine for bleaching, $4.5 millions of caustic soda and $3.8 millions of saltcake to feed the fast-growing kraft branch, and smaller amounts of dozens of other things such as lime and limestone, alum, starch, dyes size, rosin, silicate of soda, and china clay.

Also, its own, fast-growing chemical research efforts are paying off in new discoveries which could have vital long-term importance.

The new process revealed recently for using waste sulphite liquor, for instance, is regarded as a major advance.

A small fraction of this liquor is used now in Canada. But most of it, rich in chemicals and sulphur, goes down the drain. Now, a new process developed at the labs of the Pulp and Paper Research Institute of Canada can return about 70% of the sulphur originally used, along with other potentially valuable materials.

Getting so high a return is quite an achievement, for two years ago, when research had proven that 40% of the sulphur could be obtained, even that was regarded as excellent. And it's particularly impressive in view of the industry's annual bill for sulphur.

Chemistry comes into the pulp and paper production process at virtually every stage. One of its leading roles currently is in encouraging greater use of hardwoods.

Softwoods still account for around 90% of total world pulp production. But in recent years, with softwood stands dwindling in many countries and getting farther and farther away from established mills in some areas, there's been increasing pressure to develop new sources of raw material. Hardwoods appear to be the best bet.

There are, of course, many non-chemical problems involved in using hardwoods. The logs don't float, for instance, so they have to be taken overland to the mills.

But many of the problems have involved getting new chemical pulping processes and adapting old ones. Several relatively new ones — chemigroundwood, semi-chemical and cold soda — have all been found feasible.

Then too, chemical costs are a big item in pulp production. So technologists are now working harder than ever before to figure out better recovery systems for hardwood pulping, both to get an economic chemical balance and to avoid stream pollution.

Chemistry In The Woods

Even in the woods, chemistry is playing a key role.

A joint project of the Pulp & Paper Research Institute and the federal departments of Agriculture and National Defense, for example, is studying control of biting flies by aerial spraying and other means.

Mosquitoes, black flies, biting midges, horse flies and deer flies are maddening pests during the summertime in northern Canada forests. Controlling them would be a major step toward a long-range goal of many eastern mills: getting their woodcutting on a year-round basis.

The joint study is aimed at finding out more about the insects, picking the best insecticides, etc. In Quebec, a watershed of over 25,000 acres has been treated with DDT for control of black-fly larvae, a 6.7-sq. mile area aerial-sprayed to get at the adult flies, and mosquitoes attacked by spraying buildings and vegetation in a small clearing. An emulsion concentrate of three insect repellents was tried out on clothing.

In each case, results were good, and hopes have been raised that life in the woods during the summer can be made bearable.

In New Brunswick and Quebec, DDT has been the key weapon over the last four years in an all-out attack on the hungry spruce budworm, which had been destroying large areas of choice timber. The first aerial assault was made in 1952, and since then spray planes have doused over 4 million acres, with great success. This year, another 2 million got the same treatment.

In the actual wood-cutting, application of a chemical — generally sodium arsenite — to standing trees has been found to make pulpwood peeling easy anytime. Ordinary methods of removing bark are expensive and laborious, thus most of it is done at the mills. But shipping unpeeled wood adds to transportation costs. The new way — chemical girdling — makes peeling easy right in the woods, thus saves labor, risk, time and money.

Pulp and Paper, besides using chemicals and making some itself, also forms a large market for the chemical specialists coming out of Canadian universities every spring.

More and more of the mills are getting their own, highly developed research labs. And at the Research Institute graduate students working for master's and doctor's degrees in chemistry study and experiment under the guidance of eminent scientists.

In addition, of course, the mills have departments that conduct physical and chemical testing of raw materials and finished products, essential for quality control. Top position is usually the chief chemist, always a university graduate in chemistry or chemical engineering. He is supported by a staff of laboratory chemists, chemical engineers and specialists in other lines.

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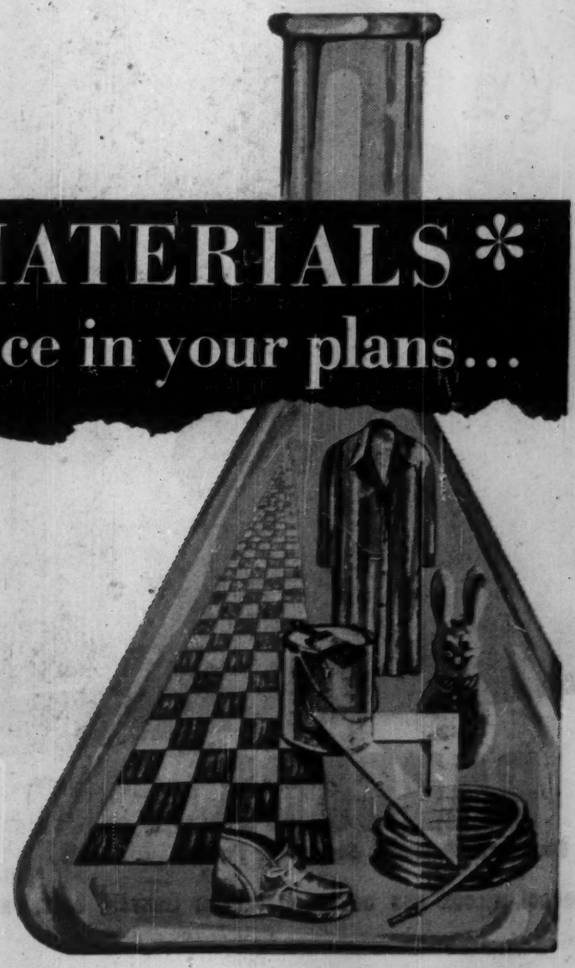

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Take just three of the relatively new plastics—each one adding a whole new range of product possibilities:

—Silicones. Their water repellency, resistance to temperature extremes, chemical inertness is opening up new fields in textile treatment, polishes and cosmetics, wire and cable insulation.

—Epoxy plastics. Because of their amazing adhesive powers for binding almost anything to anything, they are providing industry with an entirely new tool.

—Fluorethene. Its unusual resistance to corrosion of certain highly active chemicals is carving out a new field for this still largely-unknown product.

The plastics people have the 99 elements to work on — and an endless number of combinations. No one sees exhaustion of new plastics formulations for years yet.

But that is only one of the big frontiers still largely unexplored in this fast-moving industry. There is the tremendous field of tailoring known plastics to individual end uses. Although there have been big strides here in last couple of years the plastics people themselves will admit they have just "scratched the surface."

In the last few months resin manufacturers have been able to process special resins that will cut curing time of plastic molded parts down by as much as 50%. That means a plastic body part for a car can be finished in about 3-4 minutes. The time factor up till now was one of the chief obstacles preventing large-scale shift to plastic automobile bodies.

New Applications

Then there is the constantly widening market search for new plastics applications in industry and consumer products.

It is not all a one-way forward street by any means. Many of the new materials, processes, market applications would have been better left untried. But gradually in the process the chemical engineers and market experts' sum of knowledge has been expanding. The incidence of error is declining rapidly.

Plastics are now considered full-fledged engineering materials in their own right. Tonnage volumes are showing a faster growth pattern than any of the long-established construction materials. The 1954 output, for instance, was more than double the 1949 rate. Currently around 14% of plastics production is going into the construction industry.

Plastics people see no reason why their versatile products shouldn't be able to oust wood, metals, glass, leather, etc., in hundreds of industrial applications. Their products may be formed into almost any desired shape by a variety of industrial processes. Some may be molded for such things as radio cabinets. Sheets can be formed into aeroplane cockpit enclosures, or instrument panels or just used as wallboard. They may be used in hard shiny automobile paints or the popular latex-type water paints so widely used today. Some 10 million lb. a month is going into the Canadian plywood industry in form of adhesives.

Plastics have already revolutionized such industries as floor coverings, pipe, paint, kitchenware, packaging, electronics, etc. They are working their way increasingly into such large volume industries as automobile and furniture manufacture.

Plastic Pipe Vogue

One of the fastest growing of the big volume markets has been plastic pipe. Pipe extruders have been setting up shop all over the place—which has brought its own problems of some inferior products, and price-cutting.

Plastics officials in Canada's big polyethylene company — Canadian Industries (1954) Ltd.—estimate that some 3.7 million, or 28% of entire polyethylene resin consumption this year, will go into extrusion of plastic pipe. Yet four or five years ago the pipe market was infinitesimal in this country.

The pipe market is so big that long-established steel pipe producers like National Steel Pipe (U. S. Steel Corp. subsidiary in U. S.) and Page Hersey Tubes Ltd., Canada's largest pipe producer, are jumping into the business. Chief pipe applications are for moving water in farm irrigation, drainage systems municipal waterworks, moving oil and natural gas; moving chemicals and beverages in plants. Just this past month Stone & Smith, Georgetown, Ont., one of Canada's largest custom molders, began first large-scale extrusion of cellulose acetate butyrate pipe for use chiefly in moving oil and natural gas in Canadian petroleum fields.

Hydro Study

The research department of the Ontario Hydro-Electric Commission has been carrying on extensive study into the whole pipe field to see if any of the plastic pipes will meet it's rather exacting standards. They want a pipe that will carry water, oil, compressed gases and, for use in underground electrical conduits; one that has excellent corrosion resistance. They have now narrowed the field down to two types of pipe in which they are quite interested—rigid polyvinyl chloride and a pipe made out of a styrene co-polymer. This could open up a large new market outlet for plastic pipe in this country.

Film and paper coating used chiefly in the packaging industry is still one of the fastest growing plastics applications in Canada. Resin producers estimate that this field alone will consume close to 4.6 million lb. of polyethylene resins this year, a 35% increase over 1944.

Battle for Markets

While they were still much in the experimentation stage, many of these domestic molders have had to institute a bed-rock cost-cutting job to get into a more competitive position. The industry estimates that nearly 50% of custom molded parts still come in from the U. S.

In their program the molders have appealed to and worked closely with the resin producers. As a result the entire industry is in a much healthier and more competitive position today than they were even 12 months ago.

One of the largest molding firms has been able to cut costs 10% on many molded phenolic electrical parts and as a result has gained back some of the market lost previously to U. S. imports. Another custom molder has reduced costs anywhere from 5 to 15% on a broad list of molded parts in polyethylene, re-inforced plastics.

The $20 million custom molding business is on the upturn again this year in Canada following the first slight annual dip (off 5% last year) since the war. In the first four months all branches of the industry showed promising gains (compression molding up 10-12%, injection up 5%, extrusion up but impossible to calculate because of number of new entrants into the field).

The improvement has been even more pronounced in last five or six weeks, molders say. The two largest domestic molders are now working seven-day weeks with indications of continued high business volume well on into the last quarter of the year.

Resin Sales Records

As for the resin producers—the advancing sales volume pattern that got under way shortly after the war has continued up to date. Last year established another record—$50.4 millions—up about 11% over previous year.

All the big resin producers—Dow Chemical of Canada, Canadian Industries (1954) Ltd., Bakelite, Monsanto, etc. — have been making great strides in developing more efficient products, tailored more closely to molders and product use.

New high-impact type polystyrenes have broadened the market applications considerably for this long-established plastic material. They are swinging some T-V parts applications, more refrigerator parts applications, to the polystyrene field. The rigid container outlet in the packaging field is looking more promising than ever.

Canadian polystyrene producers, however, are finding that export demand has fallen off in recent months, particularly to U.K., France. Such trade restrictions as quota deliveries, higher tariffs, currency shortages have all been raised to provide a greater protection to the expanding domestic production in these countries.

Polyethylene is still the fastest growing plastic in this country with Canadian consumption showing sharp gains every year. Total use (not including imported finished goods) is estimated at 13.4 million lb. this year. Forecasts are for total consumption of around 40 million lb. in Canada by 1960.

Canadian Industries (1954) Ltd. operates the only domestic production facilities in this country, at Edmonton. Currently the $15 million plant which operates on ethane from natural gas is working at a "fair rate of capacity," company experts say. Plant has a top capacity of 25 million lb., considerably beyond Canada's total requirement at the moment.

Carbide Chemicals division of Union Carbide Canada has indicated that it will make the new low-pressure polyethylene at its Montreal East petrochemical plant. Because the new product can be made at atmospheric pressures — as against terrific pressures developed under other process (25,000 lb. to sq. in.) initial investment cost is said to be as low as one-fifth.

Demand for one of the oldest of all plastic materials — the phenolics—while not showing the same rapid growth trend as polyethylene—is nevertheless expanding steadily. Since it has settled more maturely into several big-scale market outlets, its growth trend varies almost directly with general industry picture. Sales are running considerably beyond last year, The Post understands.

The Bakelite Co. division of Union Carbide Canada at Belleville, Ont., is a big Canadian producer of phenolic resins and compounds. The company is now installing new high temperature equipment for production of certain phenolic base resins which were formerly imported. This is but another forward step in making Canada self-sufficient in the synthetic resin field. Total Canadian market for the phenolic resins, including molding compounds, is estimated to range between $6 million to $7.5 million annually.

PLASTICS ON A PICNIC are colorful bucket, made by Smith & Stone Ltd., Georgetown, Ont., and suntan lotion squeeze bottle by Plax Canada Ltd. Both are made of polyethylene, are lightweight, unbreakable. Increasing significance of plastics in our material way of life: plastic glass frames, product of many firms.

'Terylene' A Versatile New Fibre

Terylene — one of the newest of the man-made fibres — is now being produced at the $22 million plant of Canadian Industries 1954 Ltd., at Millhaven, Ont. From this modern brick building will come forth annually millions of pounds of the versatile new polyester fibre.

Nearly three times as strong as wool, Terylene, is particularly suitable for children's garments, men's socks and other clothing needing durability. It's unrivalled ability to hold a pleat, combined with high resistance to crushing, will make it welcome in men's and women's suitings.

Due to its high strength and low extensibility the new fibre will also have many applications in industry. It is also highly resistant to acids and oxidizing agents, has high electrical resistance and absorbs very little moisture.

Major raw materials for Canadian-made Terylene are ethylene glycol and dimethyl terephtalate, usually known as DMT. The mixture of DMT and ethylene glycol is heated with a catalyst under reduced pressure; the reaction forms the Terylene polymer. At this point it is a tough, white resinous material which softens at about 260 deg. C.

From this stage, through the remaining operations of its conversion to a finished product, the material undergoes no chemical change. The subsequent processes merely convert it from one physical form to another in order to impart the physical characteristics which give this new fibre desirability in a wide range of end uses.

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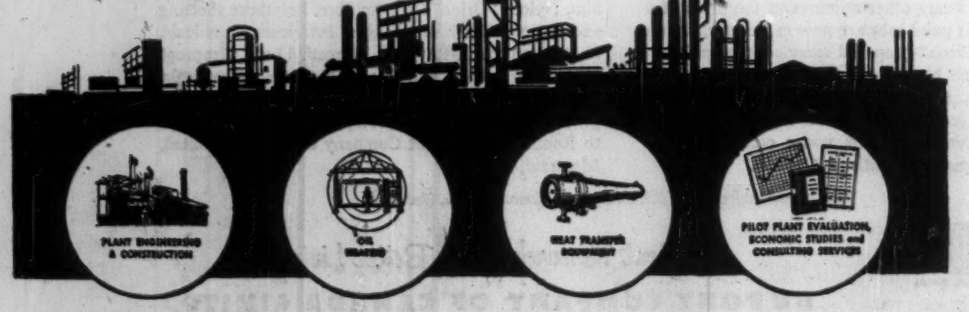

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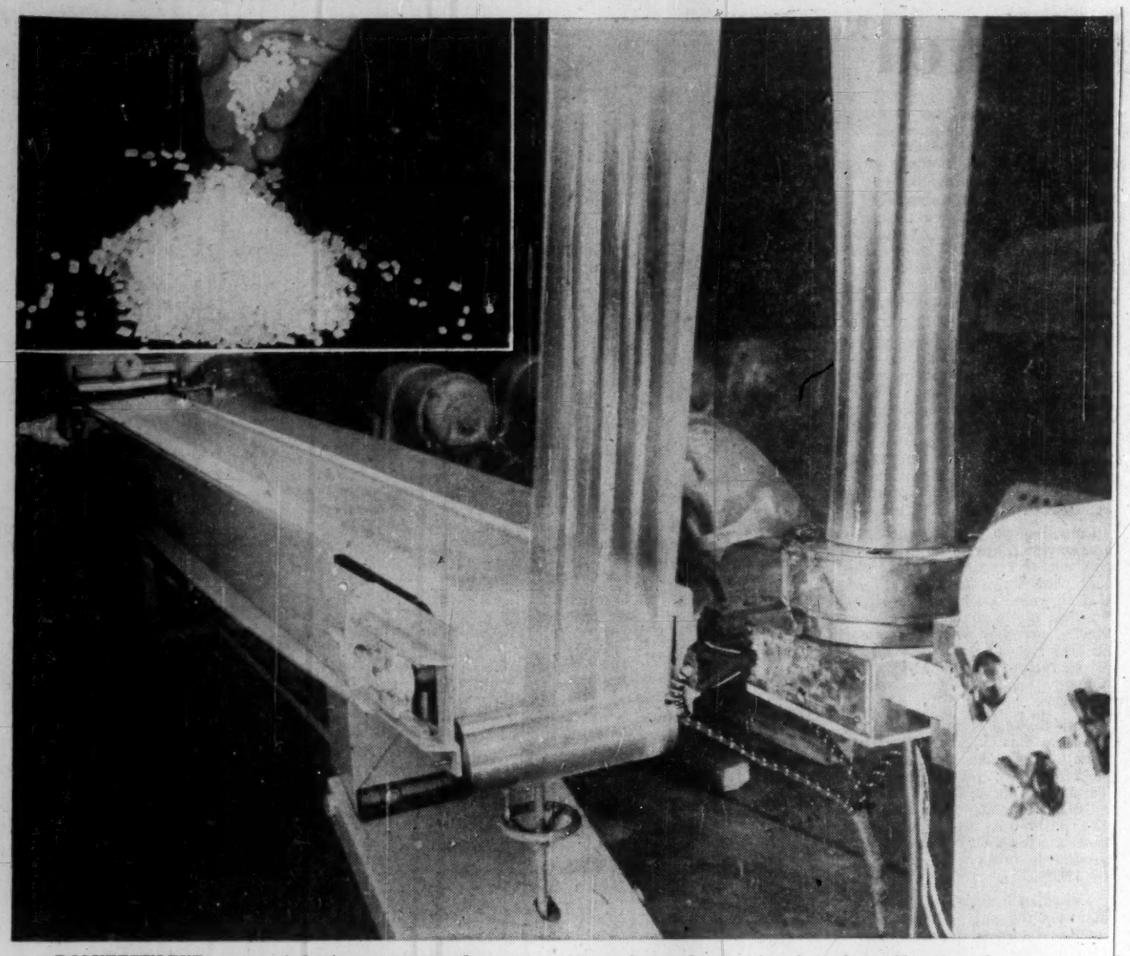


POLYETHYLENE — one of the fastest-moving plastics today — comes out of the chemical plant in small, cube-like flakes. It then goes to the various molding firms where it is formed into dozens of end products. Here it is being extruded into sheet form for use in packaging.

Petrochemicals Set New Pattern

(Continued from page 41)

petrochemical projects—Canadian Chemical Co. with its huge $75 million plant setup at Edmonton—is counting on low-cost raw material and fuel coupled with certain processing know-how to enable its dozen or so industrial chemicals to overcome the obvious disadvantage of long rail hauls to Eastern Canada and export markets. But the going has been tough and in some cases prices have had to be whittled down to unattractive levels to move goods.

Outlook Varied

The picture varies sharply from company to company according to the degree of competition from outside the country and the general economic health of the particular industry, or industries, they supply. And because an integrated petrochemical operation invariably involves production of at least two and usually more different products the marketing picture varies from product to product within the company itself. Because the rayon textile industry is still in the doldrums acetone requirements from the two big Montreal East producers—B.A.-Shawinigan and Shell Oil Co.—are running far below normal. But because the majority of other industries are operating at a high level, demand for the other two chief products—phenol and isopropyl alcohol is holding at a good level.

But all the early marketing difficulties being encountered by the petrochemical producers have not dimmed their vision of the future. And actually new natural resources developments over the past couple of years, the heavy influx of new industry into the country and the continuing sharp population climb are serving to bring that inevitably bright future a good deal nearer realization.

The tremendous new mining, oil and gas developments under way and planned will mean expanded markets for explosives. This in turn means more ammonia, more ethylene dioxide.

The high rate of consumer earning power in this country has put ownership of an automobile within the economic range of almost every wage-earner. This has gradually boosted auto production to new peak levels in this country, has meant tremendously expanded demand for the many petrochemical products that go into the modern auto, e.g. anti-freeze, upholstery, slip-covers, steering-wheels, dozens of plastic applications, adhesives for use in window safety glass, etc.

Demand Strong

Over-all industry demand for majority of petrochemical intermediate products is running at a high level with sales in the first four months of the year substantially higher than in the same period last year. The big problem for the domestic producer is to capture and then maintain his shar of this going business.

Although it is difficult to draw the line between a petrochemical and strictly chemical operation and to break down some producers sales between petrochemical and associated products a close guess would be that sales of a dozen main producers in this country are running between $90-$100 millions annual rate. This represents around a fourfold increase since 1947.

Industry officials are doubtful that the same rate of industry growth will be maintained over the next few years. Many of the more obvious product situations are now being exploited. Besides, manufacturers contemplating construction of expensive plants for new products will likely want more than government promise to "look into the tariff situation" once the product is made. Being virtually barred by prohibitive tariffs out of the most obvious export market—U. S.—and dependent almost wholly on domestic markets, as they are, these manufacturers will want more concrete assurance that they will be able to command most of the home market.

Biggest moves will probably be along the line of further product diversification in already existing plants. Everyone of the major postwar plants could add new products without costly re-vamping of processes; others could add products with relatively modest cash outlays for altered plant and equipment. It is in the plans of management to take such steps when market warrants it.

With the starting raw materials of natural gas and high alpha pulp the big Canadian Chemical Co. plant at Edmonton could add dozens or more chemicals without heavy capital cost. Five new products are being added this summer and a further market survey has indicated two new groups of products that might be successfully produced and marketed with only minor plant and equipment changes.

Toward Self-Sufficiency

Union Carbide Canada officials make no bones about the fact that their Montreal East petrochemical venture will be just the starting off point for a broad petrochemical expansion in this country; that they intend to make more and more of the chemicals now being supplied by associated U. S. firms in U. S. The Montreal operation which is starting with ethylene oxide and ethylene glycol, will later add polyethylene, and ethanolamines and glycol ethers. Being used are the basic processes by which associated U. S. companies turn out more than 300 chemicals in U. S.

Dow Chemical of Canada with its chlorhydrin process of producing ethylene glycol could carry its product chain into virtually dozens of more products.

Both B.A. - Shawinigan and Shell Oil at Montreal East have eyes on further product steps.

Construction of a trans-Canada gas pipeline system to Eastern Canada will have a big impact on direction of future expansion in the petrochemical industry. Not only will plentiful supplies of gas be made available to industry along the route of the proposed pipeline, but new petrochemical plants are certain to go up close to some of the major gas fields in the Prairies.

Because you just can't pipe natural gas as it comes from the ground to the consumer's gas stove, the ambitious $350 million pipeline project will have a batch of byproducts to process and sell. This will involve a multimillion dollar wave of construction of gas treating plant in Western Canada. These byproducts—ethanes, propanes, butanes, hexanes, natural gasoline—that will have to be largely stripped out of the gas before it can be transported in a pipeline, will provide a tremendous reservoir of hydrocarbon raw materials for future petrochemical endeavors. In time these byproducts could mean more to Western Canada than the gas itself.

It is difficult at the moment, however, to predict a large-scale petrochemical expansion in Eastern Canada based on Prairie gas. Not only will the gas be rather high priced for such projects as ammonia-making but many of its essential hydrocarbons—such as ethane—will likely be extracted at source.

Eyes On Gas Line

Eastern petrochemical officials, however, are closely following the progress of the trans-Canada pipeline project. They are concerned with the future supply situation of light hydrocarbons from current oil refinery sources. They see their own future expansion pace sharply limited unless more refining capacity establishes in their locality or light hydrocarbons become available at satisfactory prices from the gas pipeline project.

Dow Chemical will look closely at prices and gas composition, for instance, both for possible new uses and conversion of existing plants. Polymer officials are interested both from the standpoint of fuel and as light hydrocarbon feedstocks for ethylene production. Canadian Industries 1954 Ltd. is planning to make its projected new ammonia plant at Millhaven, Ont., convertible from heavy fuel oil to natural gas.

Life blood of the petrochemical industry is hydrocarbons—molecular combinations of hydrogen and carbon atoms. Although present in all nature it is only in petroleum that hydrocarbons are concentrated enough to permit economic extraction. The natural and refining gases carry within their structure the potentiality of making many organic chemicals and it is well agreed now that some 25% of total chemical production is now based on this petroleum raw material base. Predictions are that this figure will go as high as 50% within the next 10 years.

Growth of Canada's petrochemical industry would never have been possible without the unprecedented postwar expansion in refining capacity. This has doubled and thus made available a greatly expanded volume of byproduct gases for the growing petrochemical industry. In some cases, the oil companies are creating new divisions—or associated companies—and going directly into the chemical business. That is the case with both Shell Oil Co. of Canada and British American Oil Co.—the latter in conjunction with Shawinigan Chemicals Co. In other cases, the oil companies have preferred to remain essentially in the refining business and are selling their refinery gases as feedstock to petrochemical companies in the area. (Imperial Oil, McColl-Frontenac, Canadian Oil Cos.).

Thus the big refining centres—Sarnia, Montreal East and Edmonton—have become the major Canadian petrochemical centres. In the case of Edmonton the supply of low-priced natural gas has been a big added incentive. One company is using the gas as a source of its raw material, another is using it as a fuel under its boilers.

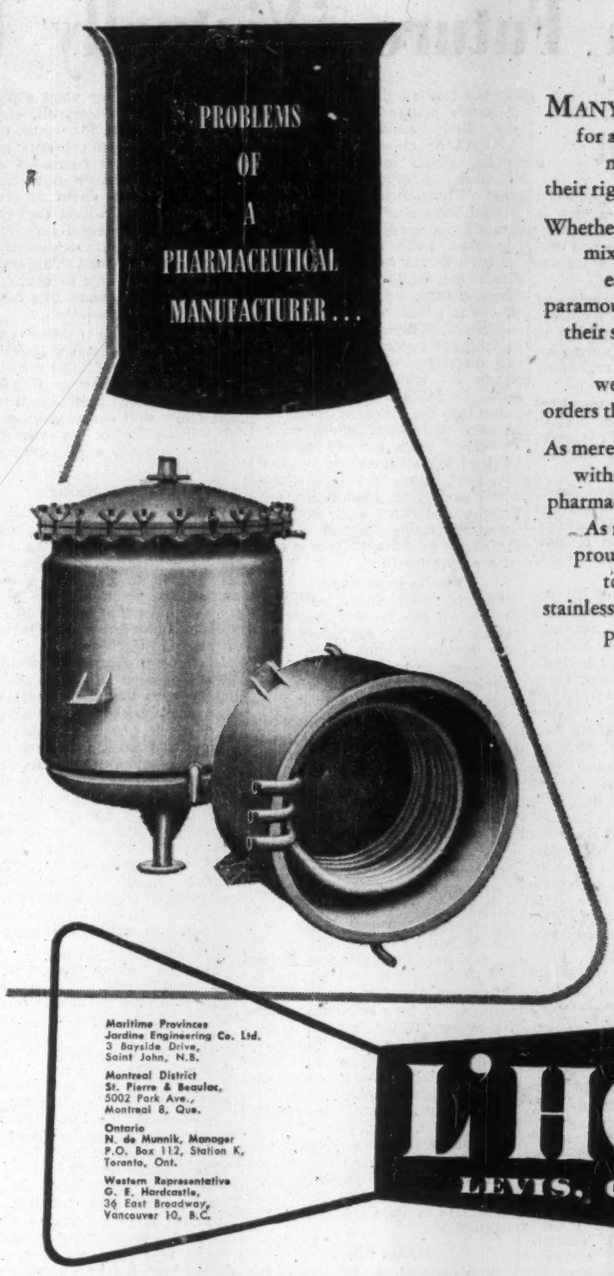
But it will take more than just plentiful supplies of low-cost raw materials and economically priced power to make a successful petrochemical industry. It needs properly organized and well-financed companies, with plenty of technical skill and an intuitive sense of markets.

Biggest resources of the all-important hydrocarbon gases will continue to be in the West, whereas the main markets for the petroleum products will continue in the East—separated by long, costly rail hauls. The East is also best situated to supply bulk of the potential export market.

Materials In Demand

But the world's voracious chemical appetite will inevitably place more and more of a premium on the essential primary raw material supplies. That trend should

(Continued on page 47)



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Petrochemicals Set New Pattern

(Continued from page 46)

steadily improve the competitive position of the lustily growing young petrochemical industry in this country.

Here is a cross-Canada survey of what's doing with the chief petrochemical producers:

B.A.-Shawinigan Ltd. (owned jointly by British American Oil Co. and Shawinigan Chemicals) has smoothed all the early production kinks out of its Montreal East plant operations. The first process of its kind in the world producing phenol (for the first time in Canada) and acetone via cumene and benzene raw materials, production is said running at a high rate of capacity with sales ahead of the same period last year.

The plant is supplying a major portion of Canada's phenol requirements. But acetone, the second major product, is moving more slowly since chief market outlet, the rayon textile industry, is still operating far below normal rates. Capacity of plant is some 13 million lb. of phenol and eight million lb. of acetone. In Canada phenol is used chiefly in manufacture of synthetic resins for use in adhesives for plywood, molding powders for use in the plastics industry.

Canadian Chemical Co. There's a new air of optimism pervading top management of Canada's biggest postwar chemical project —Canadian Chemical Co., Edmonton. Although marketing problems still remain, there is a growing feeling that the ambitious Edmonton project will now show a steadily brightening picture.

Currently sales are running at highest level since operations got under way. Chemical section of plant is said operating at close to peak capacity and output of cellulose acetate is considerably over plant-designed capacity rate. The textile unit is still operating considerably below peak. Employment at plant is running around the 800 level.

Production of five more industrial chemicals is scheduled to begin at the plant by midsummer. Raw materials now available there will be used in the process. Methyl isobutyl ketone, methyl isobutyl carbinol, methyl ethyl ketone, 3-methoxybutanol and 1, 3 butylene glycol will all be produced for the first time in Canada at the company's Edmonton plant. Acetaldehyde, formaldehyde, acetone and methanol, already produced at the plant, will be used as raw materials. The new products have a wide range of industrial market outlets in manufacture of nitrocellulose lacquers, alkyd and phenolic resins, brake fluids, etc.

A recent market survey has outlined two new groups of products which the company could successfully process at Edmonton works. They would involve some further plant additions.

Economics of the Edmonton plant depend substantially on maintaining operations at a high rate of designed capacity. In certain cases to get up to this level it has been necessary to dispose of certain products—particularly one or two of the lower-priced chemicals—at somewhat unattractive price levels.

Canadian Industries 1954 Ltd. CIL 54's polyethylene plant at Edmonton is operating at a "fair rate of capacity," a company spokesman tells The Post. Although somewhat disappointed at the 7½% tariff protection awarded on polyethylene resins in the recent budget when 10% had been recommended earlier by the tariff board, CIL management is hopeful that it will bring some worthwhile measure of relief from U. S. competition.

But with a period of over-production now pending in U. S. as a number of new plants come on stream there CIL anticipates sharp competition on its home market front for some time.

The $15 million Edmonton petrochemical plant has a top capacity of some 25 million lb. of polyethylene resin, considerably beyond current total domestic requirements. But estimates are that domestic consumption of the fast-growing plastic will reach the 25 million lb. level by 1957.

In CIL 54's process natural gas is used both as a raw material and a fuel. Ethane is removed from the gas stream and then cracked into ethylene. The ethylene gas then is subjected to tremendous pressure. Some of the ethylene will then polymerize to form liquid polyethylene. This is then solidified and cut into small cubes.

Dow Chemical of Canada. Recent 10% tariff protection granted Canadian manufacturers of ethylene glycol will bring some measure of relief to Dow Chemical's hard-pressed ethylene glycol operations. A prolonged competitive price war in U. S. had cut prices in half over last couple of years. Since up to now domestic manufacturers had no protection from the long-established producers in U. S. they have been forced to parallel U. S. price action. Because of smaller, high unit cost plants, this has reduced operations to very marginal levels. The only other domestic producer—Dominion Tar & Chemical—has sold out its unprofitable Montreal plant to Union Carbide Canada which company is planning a major process change from old chlorhydrin to a direct oxidation operation.

Company's new 85-tons-a-day ammonia plant is now operating fairly smoothly with most of early production kinks ironed out. Ammonia demand is showing a promising expanding trend and company holds high hopes of a big demand jump once greater use is made of direct application of anhydrous ammonia to the soil as a plant food. Dow has been actively promoting this agricultural market for ammonia, cooperating with the Ontario College of Agriculture at Guelph and other agricultural groups in proving up effectiveness and economy of this plant food.

Basic chemical operations are being maintained at a high rate of capacity at company's diversified sprawling Sarnia plant operations. Caustic soda, chlorine, hydrochloric acid, ammonia demand is holding up very well, reflecting high activity in principal consuming industries, pulp and paper, oil exploration and development, etc. Company's solvents business is also being maintained at a high level.

The polystyrene market picture, however, has not been too bright. Export business has become more and more difficult in recent months in some countries (e.g. U. K., France). Such trade barriers as quotas, boosted tariffs, lack of foreign exchange to importers have all combined to reduce overseas movements of goods. To a certain extent these moves reflect increasing overseas pressures to protect expanding domestic industry. In the Canadian market the steadily rising inflow of made-up plastics goods from U. S.—toys, dolls, novelties, dishes, etc.—is hitting hard at molder's business and is being reflected in lower resin demands from the chemical producers.

Polymer Corp. Canada's big synthetic rubber producer—and first petrochemical operation in the country—is going all out to try and keep up to record market demand. Customers have recently had to be put on allocation to spread available production around as far as it will go. At the same time production is being stepped up a further 7,000 tons this year to a new peak of 93,000 tons.

Polymer officials see steadily expanding world demand ahead with the synthetic product likely to get major share of the growing market. At the same time with government-owned plants in U. S. now sold to private industry Polymer looks for more competitive days ahead. But with an enviable record of achievement to date, one of the finest research laboratories in Canada and a $1¼ million annual operating budget officials are confident they will be able to remain in the forefront of the world's postwar synthetic rubber race.

Shell Oil Co. of Canada's Montreal East plant for first Canadian production of isopropyl alcohol—and acetone—is operating close to 90% of capacity with demand currently holding at highest levels in last couple of years. Continued high industrial tempo in the country has meant a buoyant market for company's i.p.a. output. But acetone has lagged because of low textile industry demand and lack of development of any major new markets in recent years. But company has considerable operational flexibility between i.p.a. and acetone being able to concentrate more on one and cut down production of the other when the market warrants such a move. Company has enjoyed some export in both products during past year to east coast of South America.

Rated plant capacity is 20 million lb. a year, composed of 12 million lb. of i.p.a. and 8 million lb. of acetone (considerable flexibility in these proportions). Market outlets for i.p.a. are almost as wide as all industrial applications for alcohols generally, while chief outlets for acetone are as a solvent in manufacture of cellulose acetate, in rubber chemicals, production of butylene, in acetylene, etc.

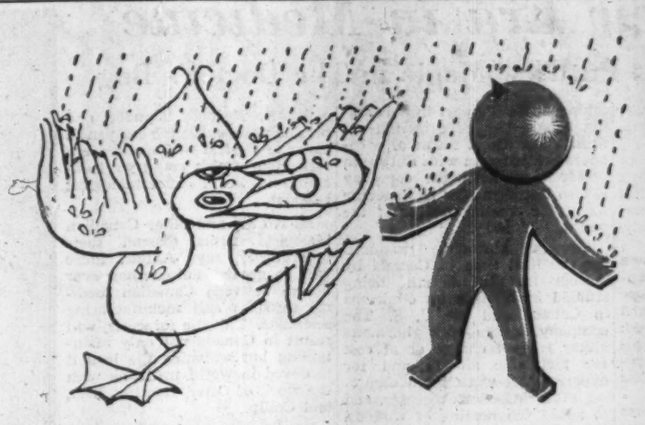
Union Carbide of Canada is right up to schedule on the multi-million dollar conversion job being done on the Montreal petrochemical plant purchased from Dominion Tar & Chemical last October.

Facilities are being established at the new plant to employ Carbide's direct oxidation process for manufacture of ethylene oxide, the important intermediate for ethylene glycol and a number of other chemicals. This process, which eliminates the need for chlorine—as is used in Dow Chemical's operation at Sarnia and the former Dominion Tar process—was developed by Carbide in U. S. and brought into use in 1937. Carbide's plant will be the first in Canada to utilize this technique.

In the meantime while reconversion is in progress Union Carbide is making ethylene glycol at the Montreal plant on a temporary basis by importing ethylene oxide from U. S. associated company and using some of the available equipment at the Montreal plant, to convert into ethylene glycol.

Plans are to also produce polyethylene at the Montreal East plant by a complex process using ethylene gas from nearby oil refineries.

Union Carbide officials claim the new plant is just the starting-off point for broad petrochemical expansion in this country. The plant is operated by the Carbide Chemicals Co. Division of Union Carbide Canada Ltd.



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Silicones will protect your clothes . . . keep you dry. Applied to gabardines, acetates, broadcloths, flannels, silks, synthetics and blended fabrics, G-E Dri-Film 81432 makes them shower proof . . . and increases their abrasion and tear resistance.

You can also add years of life to masonry with G-E Dri-Film 103. This colourless Silicone liquid, sprayed or painted on stone, cement, brick, stucco or asbestos shingles, will preserve the beauty of industrial and commercial buildings and homes.

And, Silicones even help the deaf to hear better. Hearing aids, coated with G-E Dri-Film 88 help eliminate static troubles caused by moisture. On other delicate electronic equipment, it protects intricate circuits from moisture, and corrosive atmospheres.

There are a large number of G-E Silicone compounds, with a wide variety of properties and characteristics. They offer industry many possibilities for improving both products and manufacturing processes. You owe it to your business to know more about them.

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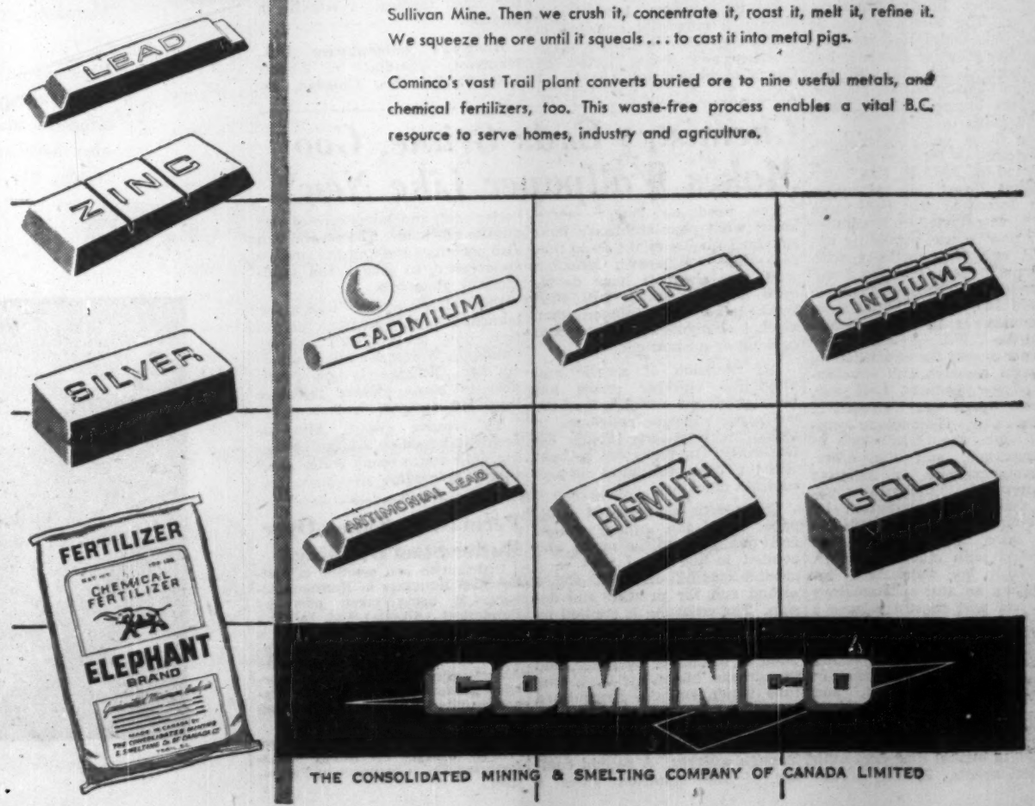

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THE CONSOLIDATED MINING & SMELTING COMPANY OF CANADA LIMITED

The New Era in Medicine

Laboratory Has Put New Magic in The Doctor's Bag

The names may be strange, weird sounding . . . aureomycin, terramycin, chloromycetin.

There are countless others of these new medicinal agents. They are vital, often life-saving drugs which include hormones, vitamins, sulfonamide and the antibiotics.

These drugs were unknown and unconceived by our ancestors. Even 10 years ago, more than half the drugs which exist today had not been discovered. Fifteen years ago, 90% of a typical cross-section of today's prescriptions written by physicians could not have been filled.

Such have been the advances by white-coated laboratory scientists, and men whose faith, determination and money backed research into unknown fields. It is a far cry from ancient Greece where followers of Hippocrates, "father of medicine," believed chiefly in the healing powers of nature and regulation of diet.

Here is the record of a few major firms engaged in this work:

Merck & Co. Ltd., manufacturing chemists, continued to progress during 1954. Vitamins, hormones and antibiotics continued as leading volume items and unit sales in several items reached new highs. Improvement in production techniques enabled the Company to reduce prices and thus increase the availability of certain products to the general public.

Competition from foreign manufacturers, aided by much lower pay scales abroad, made itself increasingly felt, particularly in the field of vitamins. Prices of vitamin B1 and vitamin C were drastically reduced during the year. The effect of these reductions was partially counterbalanced by increased sales of other vitamin products, including food and feed mixtures.

Chemical and pharmaceutical research led to the development and introduction of several new formulations of hormone products during the year. Of special note is flurocortisone, introduced in Canada under the trade name of "Alflorone." This product is several times more potent than hydrocortisone for external use.

Domestic Production of Vitamin B12 and Niacin was initiated in a move toward complete Canadian production of the known essential vitamins. Sodium Propionate, used by the baking industry to inhibit the growth of mold and rope, was also manufactured for the first time in Canada.

Activities were also expanded in the important farm field. Among new veterinary products introduced was Nicarbazin, for use in chicken feed to prevent outbreaks of coccidiosis, a widespread poultry disease. "Vetstrep" Spray, a unique aerosol treatment for chronic respiratory disease of poultry was also made available during the year.

In the area of plant diseases, research and marketing personnel conducted extensive commercial trials to determine the effectiveness and economic feasibility of antibiotic treatment for fire blight of pears and apples, and other plant diseases which cause serious losses to farmers. Streptomycin now appears to be the preferred antibiotic for these uses.

Merck research also developed special forms of vitamin C for improving the curing of meats.

Recently, Sturge (Canada) Ltd. was incorporated as a joint subsidiary of Merck & Co. Ltd. and John & E. Sturge Ltd. of Birmingham, England. Citric acid will be the first product to be manufactured under this arrangement in a new plant building erected at Valleyfield, Que.

Frank W. Horner Ltd., a Canadian owned pharmaceutical house, saw sales increase to a record for the seventh successive year. The company evolves, manufactures, and distributes prescription drugs for use by physicians in Canada, B.W.I., Central America, Cuba, India, Pakistan, and several other South American countries. The company says it has not only maintained its position in the growing economy but has increased its share of the Canadian pharmaceutical market. Its export business also showed marked gains in 1954.

After three years occupation, Horner outgrew the new building completed in 1952 in the Town of Mount Royal. An extension which increased the floor area by 40%, was started in November and is now in use, providing improved employee facilities with additional manufacturing and storage space. The company now employs 185, including 50 sales representatives in Canada and two in the B.W.I.

Horner traces its expansion to successful research and development of new products. Last year, two new drugs were released in Canada. One, a dioxolane compound for the treatment of dysmenorrhea, and the other, dichloralphenazone, a sedative and hypnotic. Dichloralphenazone makes a contribution by overcoming the objectionable taste, odor, and gastric upset associated with chloral hydrate.

Presently, the company is investigating an anti-inflammatory agent and will shortly release a product utilizing the enzyme, trypsin, for injectable use. It will be employed in treating acute inflammation occurring in thrombophlebitis, trauma, and other vascular disorders.

Within the last two years, successful advances have been made in treating mental disorders with chemical agents. Horner is now taking an active part in developing newer drugs for mental illness. As a direct result of a co-operative program with European research workers, the company is also testing a new and specific agent for treating cancer of the prostate gland.

Growth hormone, produced for the first time in Canada by Horner in 1950, is still being studied in humans by clinicians in Canada and the U. S. The company offers this hormone either free of charge or at cost for metabolic studies and for experimental work in tuberculosis, other infectious diseases, and to speed the healing of wounds. Like ACTH, growth hormone is extracted from animal pituitary glands. Ten thousand such glands are required to produce one ounce of the hormone.

The first five months of 1955 indicate another sizeable increase in the company's volume. At present an intensive program of modernizing equipment and further mechanizing packaging operations is under way.

That mysterious crippler, arthritis, is now held in check by Acton X and Duracton, products exclusive to **Nordic Biochemicals, Ltd.**, of Montreal.

Starting production in 1952, Nordic is today Canada's only manufacturer of ACTH, now widely used in treating not only arthritis and other allergies, acute alcoholism, and shock. Although other attempts to manufacture ACTH have been made in the past, Nordic now has no Canadian competition.

This exclusiveness is due principally to the young firm having mastered the production of this "stress" hormone in a highly purified form that enables its use beyond the confines of a hospital.

A unique feature of this hormone is that it makes possible the treatment of ailments resulting from what Dr. Hans Selye calls "stress." This famed researcher's concept of the general adaptation syndrome and diseases of adaption have revolutionized medical thought.

In brief, the Selye doctrine demonstrates the body's struggle against disease causing influences. While adapting itself to set up resistance to them, the body's defense mechanism may give rise to other disturbance and ailments, which Selye designates as diseases of adaptation.

It is in the treatment of these diseases of adaptation that Acton X and Duracton have their foremost use. Containing ACTH in highly concentrated form, they stimulate the body's adrenal glands to restore its delicate endocrine balance. The potent effect of these Nordic products is the result of a unique system of Nordic's pooling of Canadian and Scandinavian research.

The firm was founded by Danish-born Kell Antoft who came to Canada in 1930. Following wartime RCAF service, he associated himself with research scientists he had known from boyhood. Discovering that Danish laboratories were a leader in the world in the extraction of hormones, Antoft made arrangements whereby these medical advances would be made available to Canadians.

In 1951, he and his brother, Finn, and a small group of Montreal investors founded Nordic Biochemicals Ltd. and by the following year were in commercial production of ACTH preparations of a potency never before seen in America.

With the supply assured the firm put into practice its improved methods of extraction and purification with the result that today it has no Canadian competitor.

One reason why it is able to maintain the potency of its products is that through its Danish affiliate, Nordic claims to have the finest hormone assay facilities in the world.

In its modern laboratories, Nordic is currently engaged in producing other hormone preparations now being tested by Canadian physicians.

Antoft, Nordic's founder and president, says that the company's plans to expand in Canada are a reflection of this country's leadership in world endocrinological research.

As Nordic and other Canadian biological firms expand their laboratories, says Antoft, there will be greater liaison than ever before between Canadian medical research and manufacturing scientists. This, he forecasts, will result in Canada not only maintaining but widening the lead it achieved in world medicine with the work of Osler, Banting, Best, and Collip.

The largest wholly Canadian pharmaceutical manufacturer is **Charles E. Frosst & Co.** whose history over the past 50 years reflects the growth and development of the industry.

The company was founded in Montreal in 1899, occupying at that time a small manufacturing site of only 26 x 80 ft. Over the years, the company has grown to the extent that the modern plant in Montreal now consists of a four-story building containing over 100,000 sq. ft. of complete manufacturing facilities, research laboratories, control laboratories and general offices where over 400 employees are engaged in the manufacture of a wide range of pharmaceutical products designed for use by the medical and allied professions. Branch offices are situated in Toronto and in Calgary where a warehouse has been established to provide more efficient service to the western provinces.

In field of pharmaceutical research, Charles E. Frosst & Co. has been closely identified in the introduction and improvement of many vitamin and mineral preparations, analgesic preparations and was a pioneer in the development of synthetic hormones. More recently the Company has been a leader in the manufacture of sulfonamide - antibiotic preparations.

The advent of the uranium pile at Chalk River has made many new radioactive isotopes available for clinical use and medical research. The company has played an important part in this new development by not only acting as a processor and distributor for clinically useful isotopes, but has made a significant contribution to medical research by synthesizing radio-active steroid hormones, such as cortisone. These have enabled medical researchers to understand more fully the complex function of these chemicals in the human body.

The company is active in the pharmaceutical export trade with rapidly developing markets in Central and South America, Mexico, Cuba and British and Netherland possessions in the Caribbean area. In one large South American market, Colombia, an ultra-modern manufacturing laboratory was built in Bogota in 1951 to supply the demand for "Frosst" products in the country. Further evidence of the continued expansion of the company has been the establishment of agencies to the Middle East which includes Egypt, Lebanon and Syria. With the exception of the Colombian enterprise, all export markets are supplied from the Canadian laboratories.

As a further development of the company's export market, a branch office was opened in Buffalo, New York and a selected list of products was introduced to the American medical profession. The initial success of this undertaking in a highly competitive market has resulted in further expansion of this phase of the Company's marketing operations.

With the growing stature of Canadian achievement in both scientific and world affairs, the company says it is geared to adequately keep pace with the future of the pharmaceutical industry and medical research in Canada.

Abbott Laboratories Ltd., Montreal, subsidiary of Abbott Laboratories Inc., Chicago, recently purchased a plant in the Don Mills area of Toronto. Construction will begin immediately on an initial factory unit of 17,000 sq. ft. The company will continue to operate the Montreal plant.

Annual report of the parent company shows sales during the first three months of 1955 markedly improved over the same period of 1954. Consolidated sales in January and February were up more than seven per cent and the upward trend has continued.

Both domestic and foreign operations share in the growth.

Abbott Laboratories Inc., reported new drugs introduced since the middle of 1954 were contributing materially to sales revenue. Among these were the local anesthetic Tronothane, the oral penicillin specialty compocillin, the new antianemia product Iberol, new nutritional items and a new tablet coating which assures better absorption of the drugs and enables manufacturing cuts.

Several new drugs are far enough along in clinical trial to give the parent company confidence that they can be marketed within several months and that they will meet important medical needs. Active interest is being given to the antibiotics, synthetic drugs in a variety of fields, nutritional and geriatric products, antiviral drugs and drugs for the control of hypertension.

ANOTHER PLASTIC WONDER—Butyrate pipe, made by Smith & Stone Ltd. in Georgetown, Ont., can take the weight of a truck running over it, is corrosion-proof, can carry salt water or weak acids.

Chemistry Ends Grime, Goo Makes Wallpaper Like New

You need no longer worry about what your children's jam-smudged fingers might do to that nice new wallpaper. Canadian wallpaper chemists have developed a paper which will shed marks left by sticky fingers, jam, alcohol, or smoke and grease from cooking or oil burners.

An emulsion of acrylic and vinylidine chloride resins has been produced which gives the wallpaper superior resistance to stains without sacrificing its flexibility. The paper can be bent without even the most imperceptible cracking.

The plastic-impregnated wallpaper is of the regular weight and quality, and is made and printed in the usual way — a ground coating of color, and a second run for printing the design. The emulsion is applied by liquid dispersion — that is, an overabundance of liquid is applied to the paper by roller, and the surplus blown off by a long tube which emits a streamlined jet of air. This leaves a uniform finish. The paper is then festooned and sent on its way through a dryer. A second coating of the emulsion gives a better seal, and takes care of any minute pin-holes. The second run also permits adjusting the surface appearance, to give a flat semi-gloss or gloss coat.

The plastic-coated wallpaper, launched in this country for the first time seven years ago by Canadian Wallpaper Manufacturers Ltd., Toronto, is now available to home owners in more than 100 designs.

To remove grease, film, or accidental food splashings sponging with warm soapy water is all that is necessary.

Permasteel Takes Over Butler Steel Buildings

Distribution and erection of Butler Steel Buildings in Northern Alberta is being taken over by Permasteel (Alberta) Ltd. recently incorporated with head office in Edmonton. Contracts on hand include an office and warehouse for Alberta Steel Products, bulk storage units for Imperial Oil and warehouse units for location in Uranium City.

Gordon E. Meneely, former territorial manager for Butler Manufacturing Co., is manager of Permasteel.

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For example, end products of Monsanto plastics bring joy to young Canadians in the form of tough, durable toys . . . lasting beauty and convenience to their mothers in attractive, easy-to-care-for kitchenware, draperies, upholstery, water-repellent garments, and many other products. Monsanto synthetic detergents get clothes cleaner at less cost.

Plywood mills, furniture makers and prefabricated housing manufacturers rely on Monsanto service-proved resin adhesives and wood preservatives. Monsanto research has also developed chemicals that make paints resist corrosion, fire, water and the weather. Oil additives for Canada's petroleum industry help your car engine get more power and operate at lower cost. Even the newsprint this message is printed on is served by a member of the Monsanto family of plastics and chemicals. Monsanto chemistry has developed soil conditioners, soluble fertilizers and insecticides that help increase productivity . . . feed supplements for poultry and cattle for healthier stock, and food preservatives that make possible mass production, processing and distribution of perishables.

Few Canadian industries are not served by Monsanto. If you have a particular problem in production, processing, costs or sales, we would welcome the opportunity of serving you, too.

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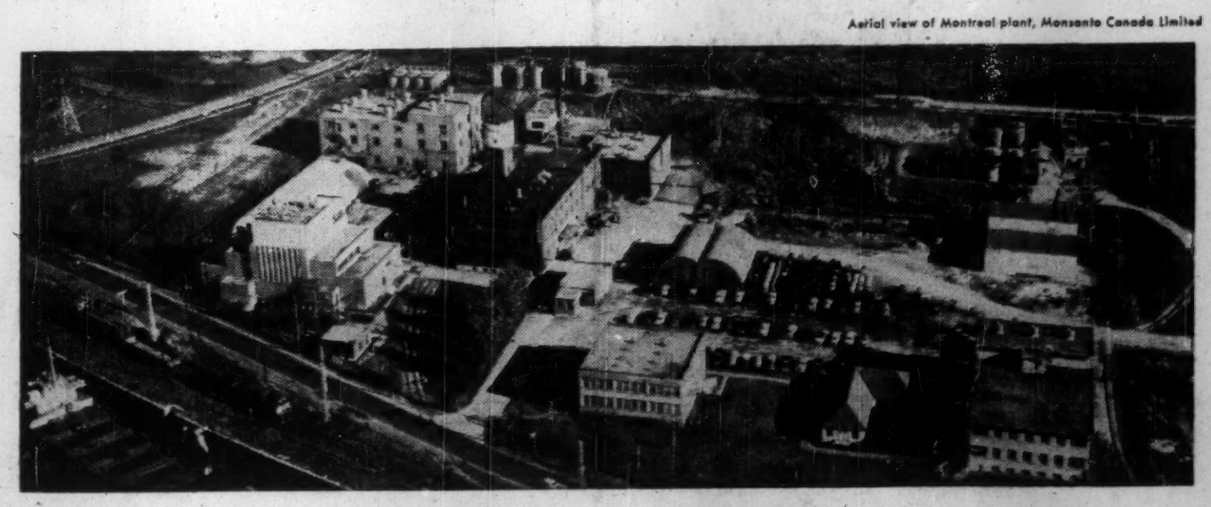
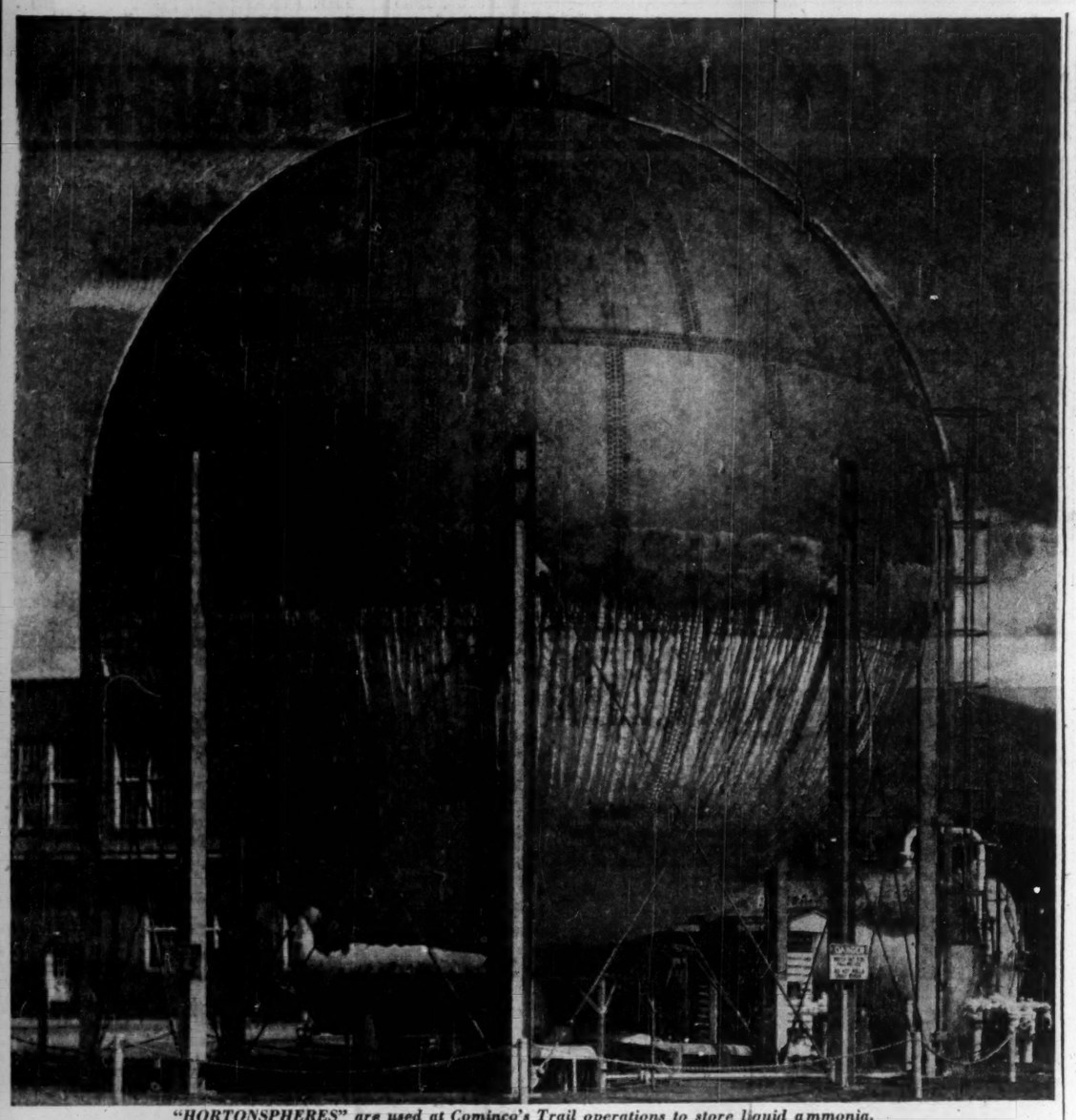
Aerial view of Montreal plant, Monsanto Canada Limited





"HORTONSPHERES" are used at Cominco's Trail operations to store liquid ammonia.

Ammonia Has a Bright Market Future

Fertilizer Creates Huge New Demand; Growth Continues

One of the oldest workhorse chemicals has had a "prettying up" and is now outstepping all the bright young offsprings from the chemists' test tube.

Ammonia which has gone to every war in the last century in the form of explosives, then methodically shifted back to a dozen or so long-established peacetime roles now suddenly finds itself the headline chemical in the North American Continent.

Ask any market analyst what chemical he thinks will have the biggest market growth over the next 10 years and he'll likely say ammonia.

In fact so many companies have either announced, or are planning, new ammonia plants in this country and U. S. that it has become a full-time job just to keep all the different projects sorted out.

In Canada six ammonia plant projects have either been completed in last two or three years or are in an advanced planning stage. In the U. S. the record is almost three times that amount.

Why all the sudden splurge in ammonia?

One big reason is this — about 75% of all ammonia has been going into the fertilizer business and the farmer is becoming more fertilizer conscious every year. But more than that he is suddenly realizing that a direct application of ammonia — in anhydrous form (liquid when under pressure becoming a gas when released into the soil) — is the cheapest way of shooting the all-important plant food — nitrogen — into the soil. Because ammonia is a very concentrated nitrogen fertilizer (it contains 82% nitrogen) a little goes a long way.

Because the farmer is now caught between rising production costs and lower selling prices for some of his crops, demand for this relatively new type, low cost fertilizer has been skyrocketing in U. S. — shows signs of catching on rapidly in Canada. Although first introduced into Ontario in 1953 it is just this year that an adequate supply of domestic produced ammonia will be available to justify a big selling program in the southwestern Ontario area.

New Supply

At Sarnia Dow Chemical Co. of Canada has just brought in a new 85-tons-a-day ammonia plant. With its original small plant this will give Dow a total capacity of over 100 tons a day. In a unique raw material setup for this country Dow will obtain part of its hydrogen supply from the nearby catalytic reforming unit of a Sarnia oil refining company and part as a byproduct from its own chlorine operations.

At Port Robinson, Ont., North American Cyanamid has started first production in Canada of nitrogen solutions (a 37% nitrogen content when applied). The starting point is ammonia which is also available from its Port Robinson plant.

Canadian Industries (1954) Ltd. is starting construction of a $9 million ammonia plant at Millhaven, Ont. almost immediately. With a capacity of 200 tons of ammonia a day this will be the largest such plant in eastern Canada. Coincident with building of the ammonia plant at Millhaven will be an expansion of C-I-L facilities at Beloeil, Que., to manufacture ammonia solutions for use in agriculture. The Millhaven plant will use fuel oil as the raw material but natural gas can be used if available.

Quebec Ammonia — a newly created company — has announced plans some weeks ago to construct a 125 tons-a-day anhydrous ammonia plant near Montreal.

In the West, Consolidated Mining & Smelting Co. has just brought into operation its 50,000 tons-a-year addition to its ammonia processing plant at Calgary. The extra ammonia capacity will go principally into anhydrous ammonia and nitrogen solutions.

In the case of Sherritt-Gordon Mines at its new chemical-metallurgical operations at Fort Saskatchewan, Alta., the ammonia output is primarily for chemical leaching of base metal ores, but in the process ammonium-sulphate liquor is produced which is later fixed into the dry fertilizer product. When operations are going full out Sherritt will have sufficient ammonia available to produce up to 70,000 tons annually of ammonium sulphate as well as some ammonia left over for sale as such to the fertilizer industry in anhydrous form.

Pulp, Paper Use

Yet another big market potential besides fertilizer has played its part in the current ammonia boom in this country. It's the pulp and paper industry. Use of ammonia as the base for sulphite cooking acid for use in pulping operations could have almost as revolutionary a market impact on the chemical as its direct application to the soil in a fertilizer role. In this possible new large-tonnage market, ammonia would play a major part in cooking the pulp and would replace lime.

So far ammonia has only caught on in a few places yet on this continent. But some pulp and paper men see a wholesale conversion in this country over the next five or six years. If that happens then there's bound to be another three or four new plants built in Eastern Canada, a couple on the Canadian West Coast.

Ammonia was introduced on an experimental basis into pulping operations by a couple of Washington, U. S. mills two years ago. Now advantages are so obvious to a number of the pulp and paper producers in that area that demand this year has shot up to around the 30,000 tons level. These experts claim ammonia provides greater capacity — with very little expense — by shortening cooking time and increasing number of woods that can be used in making paper. In the east three mills are already using ammonia.

Then there are a dozen or so long-established uses that are growing from year to year. The biggest volume outlet of all is in the fertilizer industry where it is used for blending with other plant foods to make such long-established fertilizer materials as ammonium phosphate, ammonium sulphate, ammonium nitrate, etc.

The unprecedented wave of natural resources developments going on in Canada has boosted enormously requirements for explosives. Every new mining venture, new oil search and development programs, all the big construction jobs mean more and more tons of ammonia demand for use in explosives.

Manufacturers of synthetic fibres will use ammonia in production of such fibres as nylon and Orlon. So will manufacturers of plastics — in production of synthetic resins. It's used in manufacture of petroleum catalysts, and production of ethanolamines, cyanides, acrylonitrile, and urea.

Ammonia is being used extensively in refrigeration, printing inks, dyes, metal treating, petroleum refining etc.

How It's Made

To make ammonia, you need only two raw materials — nitrogen and hydrogen. It's relatively easy to extract nitrogen from the air. It's the hydrogen content that usually dictates the location of the plant. More and more the chemical industry is looking to the petroleum industry for its supply of hydrogen — either from natural gas, or modern oil refineries. Natural gas can be readily decomposed by heat to give carbon and hydrogen. This is the hydrogen source being used by both Consolidated Mining & Smelting at its Calgary plant and Sherritt-Gordon at its Fort Saskatchewan location.

The new wave of catalytic reforming plants now being erected in this country by the oil leaders to boost gasoline octane rating still higher will make available great new streams of hydrogen. For this reason many of the ammonia plants of the future are likely to be located close to refining sites. It is also possible to recover hydrogen from processing bunker C fuel oil. This is what Canadian Industries 1954 Ltd. plans to do at its proposed Millhaven plant. The process to be installed, however, can be readily changed over to use of natural gas. Gas will be used if the proposed extension of the present Niagara-to-Toronto gas pipeline is extended on to Montreal and the gas is priced advantageously.

Theoretically, a plant for ammonia production may be built anywhere along the route of the proposed trans-Canada gas pipeline. The basic economic considerations, of course, will be cost of gas at any given point, composition of gas (the methane content, how much impurities) and the availability of markets.

In the U. S. ammonia production is based about 81% on natural gas. Coke still provides the hydrogen for about 13% of current ammonia capacity, while electrolytic cells provide roughly 4½%. The remaining 1½% is based on by-product hydrogen from catalytic reformers in refineries.

As gas prices rise, there may be a stepped-up swing away from this hydrogen source to the big new sources, catalytic hydrogen and heavy fuel oil.

The sharply stepped-up demand for ammonia in anhydrous form is part of a general trend that has been gathering momentum for several years now — the trend toward use of more highly concentrated plant food.

The whole move is closely connected with costs. The less filler material in the fertilizer the less freight, handling, storage and distribution costs per unit of plant food. Since anhydrous ammonia is the purest form of nitrogen available — 82% nitrogen content — the over-all saving to the Canadian farmer will be very substantial.

Since anhydrous ammonia was first introduced into Ontario in 1953, it has been used on shelled corn, sweet corn, sugar beets, wheat, oats, pasture and tomatoes. Government studies on ammonia have been carried out at the Ontario Agricultural College at Guelph, and at experimental stations in Woodslee, Harrow, and Ridgetown, Ont.

The ammonia is maintained under pressure in a tank and applied to the soil by special applicators at seeding time, or shortly after. The applicators look somewhat like a harrow. They consist of a tank, metering device to regulate amount applied, hose, and applicator knives or chisels. The ammonia moves from the tank through the hose into the pipe welded to the back of the chisels. Then when the chisels are pulled through the ground at a depth of 4 to 6 inches the ammonia is released into the soil. Since the ammonia is injected into the soil there is less loss of plant food through oxidation. Being applied at a depth, the ammonia tends to be more available to plants — even in drier weather.

The big postwar ammonia plant boom was touched off by the U. S. Department of Agriculture when in 1952 it forecast a tremendous increased demand for ammonia in the fertilizer business. To keep up to food-growing requirements department economists called for a threefold expansion in ammonia output by 1955. To make sure that existing manufacturers expanded facilities, and that new companies got into the business, the government set up a fast amortization program, figuring it could increase capacity by some 500,000 tons a year.

As a result of Washington's moves more than a dozen new ammonia plant projects have been constructed or are on the planning boards in U. S. A feature of the building program has been that for the first time long-established petroleum refining companies have jumped into the ammonia business, generally using their own reformer hydrogen in the process. No such move has been made in this country as yet although one of the big four — Shell Oil Co. of Canada — has been seriously looking into the possibility of establishing an ammonia plant in the Montreal East area.

Practically all of the new ammonia facilities which have been constructed could be mobilized for production of munitions in the event of an all-out war.

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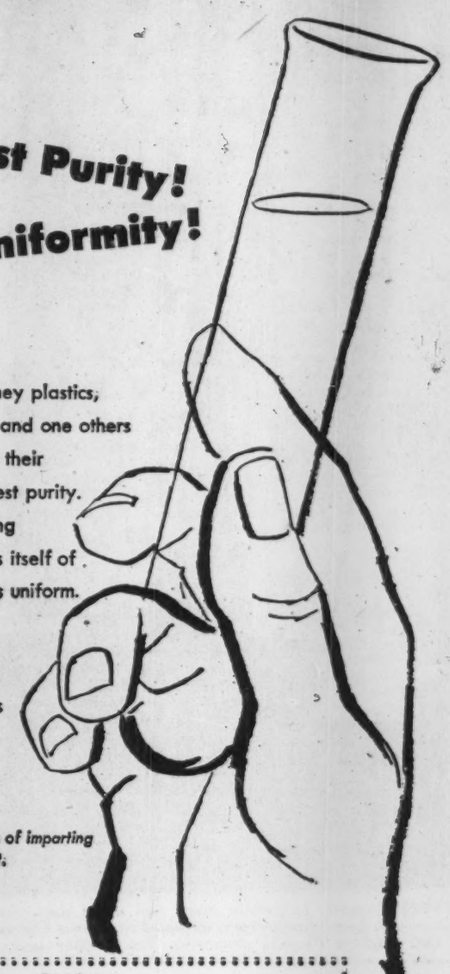

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Film, Sheeting Plastics Find New Markets

Promising new market outlets for fabric-backed plastic sheeting in automobile interiors is one of the brightest developments in the film and sheeting end of the plastics business at the moment.

The auto makers are using the plastic-coated material for car roof interiors, door panels and seat coverings. As well as providing attractive, clear colors, highly fade-resistant, the material shows excellent wearing life. This shows signs of becoming one of the biggest volume outlets in this field. More of the same coated material is going into upholstery in furniture, cushion covering, outdoor furniture, tablecloths, draperies, baby carriages, basinettes, luggage, etc.

The inflatable rubber toy market is showing steady growth. This year several manufacturers are offering wading pools 12-18 ft in diameter and three ft deep. In the film field rainwear, garment bags, purses are all showing expanding volume.

Gayly printed material is going increasingly into shower curtains, table cloths, draperies, cottage drapes, etc. Two Canadian firms are now equipped to carry the sheeting and film application right from production of vinyl resin to the end product doing their own printing and embossing jobs as well.

One of the two big integrated companies in this vinyl-film field has secured a promising amount of export business in recent weeks particularly to South American and Middle East countries.

Canada Ahead in Rubber Race

Demand Outpacing Supply of Synthetic Rubber

With one of the most modern industrial research laboratories in the world, manned by top personnel and a $1¼ million annual budget to work on, Canada's big synthetic rubber producer — Polymer Corp. — is staying well in the forefront in the postwar synthetic rubber race.

At the moment the fast-growing petrochemical giant on the banks of the St. Clair has more business than it can handle. Climbing natural rubber prices on top of an unprecedented tire demand from auto makers has boosted domestic requirements about 20% higher than had been anticipated.

With some 60% of output already contracted for in export markets Polymer officials are forced to put customers on allocation. Output is being pushed an extra 7,000 tons this year to a new peak of 93,000 tons.

How long the current heavy demand is going to hold officials don't know. If natural rubber prices were to slip again tire makers would start paring their synthetic orders. But regardless of the intermediate ups and downs Polymer sees a steadily expanding demand picture for rubber generally. Experts predict a world demand of 3.5 million tons in 10 years — up 1 million tons over 1954's total. Last year natural supplied 1.8 million tons of total 2.5 million requirements. Since experts can't see natural output increasing significantly it means that synthetic producers will have to make up bulk of the difference.

Expansion Plans

In line with the bright forward picture Polymer management has mapped out a steadily expanding production program over the years ahead. A good part can be done within the framework of existing facilities at Sarnia. This will mean applying new production advances to the processes and equipment currently being used. Some revamping of equipment will be made from time to time.

Polymer heads realize they are entering on a new competitive phase with recent sale of U. S. government-owned synthetic rubber plants to private industry. The race for more advanced know-how, bigger markets, is already warming up in U. S. Polymer can see a reduction in its U. S. business — always a handy spot market when some surpluses build up from time to time. She can see a rising competitive threat to some of her long-established export markets. There will possibly be an increase in imports of certain specialty rubbers from U. S.

But with its tremendous postwar record of achievement in research, production and marketing, Polymer is more than ready to meet the challenge. Here are just a few of these achievements:

1. Since war's end has doubled rubber output.
2. Created large-scale export markets — currently exporting to some 22 countries.
3. Built up one of the largest, most efficient industrial research departments in Canada.
4. Polymer's chemical engineers have been first in the world to apply the cold rubber process to oil resistant rubbers of the acrylonitrile type.
5. Developed oil extended rubber in conjunction with General Tire in U. S.

Where They're Looking

Right now Polymer research people are looking closely at alfin type rubber. This is based on a catalyst developed by Dr. Martin of Massachussetts Institute of Technology several years ago. It has been attracting a good deal of attention in U. S. It's big attraction is the promise it holds of cost reduction in making certain chief rubber types.

In a few weeks Polymer's ethylene unit will be down for a major $2 million modification job. A stockpile of ethyl-benzene which has been built up against this move will enable rubber production to be maintained at current high levels.

The alteration of ethylene production facilities has been made necessary because of changes in oil refining techniques. Such moves as catalytic cracking units, catalytic reformers alter the refinery gas streams which contain Polymer's basic hydrocarbon raw materials. Installation of "cat" crackers at nearby refineries has not only changed the hydrocarbon composition of the gas stream used by Polymer, but has made it necessary to treat a much larger volume of gas to obtain the same hydrocarbon requirements.

When completed the modified facilities will enable Polymer to produce ethylene efficiently with good recoveries over a wide range of feedstock composition.

Exacting Process

To make synthetic rubber that will compete quality-wise and price-wise with the natural product depends on a whole range of factors. Two of the most important are a stream of refinery gases reasonably priced and the proper equipment and chemical know-how to break down the complex petroleum hydrocarbon molecules contained in this stream and then rearrange them again in the proper pattern.

A large part of the rows of compressors, distillation towers, boilers and pumps, stirring vats, storage tanks, etc. that make up Polymer are concerned with this basic operation of breaking down the molecules into simple units and then joining them together again in a pattern of long, chain-like structures.

Polymer is chiefly interested in the ethylene and butylene hydrocarbons contained in the refinery feedstock. After purification of these two basic products, Polymer then converts them into the all-important intermediate raw materials — styrene and butadiene. Benzol — obtained from the steel industry — is used in the process.

In making the big volume GR-S types of rubber styrene and butadiene are mixed under pressure in a solution of soap and water with certain other chemicals. A catalyst is then added which stimulates the two basic hydrocarbons to become linked together as a co-polymer. This step — polymerization — generally requires about 9-12 hours for average rubbers.

The polymerization product emerges as synthetic rubber in latex form looking much like the milk from the rubber tree. Some of this is shipped to rubber processors for use in such things as foam rubber and adhesives. But the big demand is for solid rubber and so the process must be carried a few steps further — to dried, compressed 75-lb bales available for shipment to any part of the world.

Polymer is a product of research. But it took the exigencies of war to bring this industry to commercial reality.

"At Polymer, we realize that we must step up our research efforts if we are to hold our position in the industry," President and Managing Director J. D. Barrington stated in the annual report covering 1954 operations. "Our research and development group is the largest industrial research organization in Canada and I feel that it is second to none in the synthetic rubber field."

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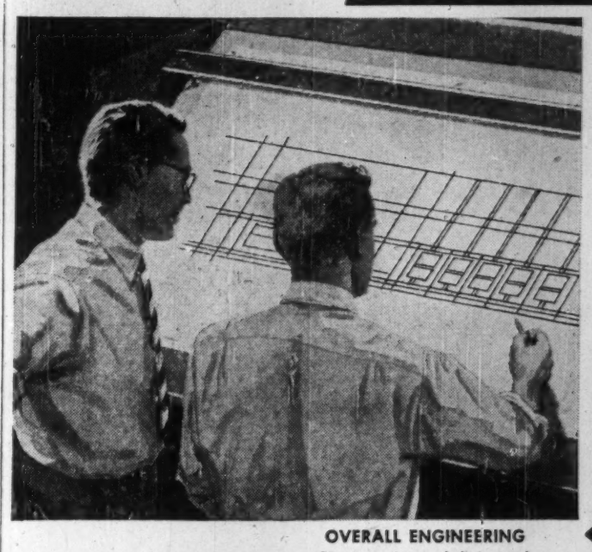

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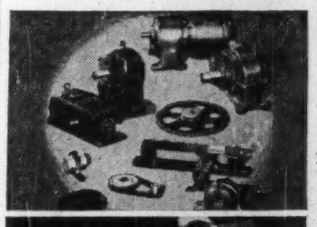

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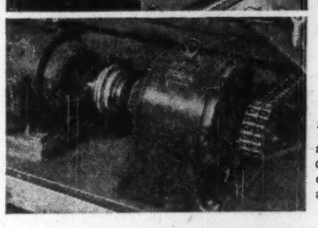

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Here's New Growth and Outlook for Chemicals

Polymer Executive Takes A Look At Achievements, What's Ahead

No scientist is better equipped to report on the tremendous postwar growth in the Canadian chemical industry than E. R. Rowzee, vice-president and manager of the Crown-owned synthetic rubber company — Polymer Corp. Mr. Rowzee was not only a key figure in Canada's first major venture into the petrochemical field — development of the huge, sprawling plant on the banks of the St. Clair — but through industry and his close association with the Chemical Institute of Canada has been in close touch with what has been happening in the chemical field. Here are Mr. Rowzee's comments on growth in the Canadian chemical industry presented at the recent 38th conference of the C.I.C. held in Quebec City where he received an honorary Doctor of Science degree from Laval University.

By E. R. ROWZEE

I should like to point out the tremendous growth enjoyed by the Canadian chemical industry since the turn of the century. In the early 1900s it was woefully small, representing an investment of some $25 to $30 millions and employing some 200 chemists. It consisted primarily of sulfuric acid production, coking of coal for illuminating gas, production of calcium carbide and the manufacture of explosives and paints. There was no production of chlorine, caustic soda or soda ash. Production of organic chemicals was very limited. There was no synthetic organic chemical industry. There was practically no

Today the investment in Canada's chemical industry is approximately $2 billions and the number of chemists and chemical engineers employed is above 7,000. The growth of the chemical industry has been particularly rapid during the past 15 years and Canada now has plants representing all the most important segments of the chemical industry. Moreover, Canada is now a significant factor in the world's chemical trade.

How has this transformation come about? To understand fully the tremendous development which has taken place one must trace the growth of our major chemical companies. If one does not wish to go back 50 years, a good indication of the importance of Canada's chemical industry can be gained by a review of the growth of a number of comparatively new industries such as the petroleum industry, one with which I am associated.

Synthetic Rubber

As most of you know, the production of synthetic rubber is one of the many practical applications arising from the study of high polymers. This branch of chemistry has been the subject of intense study by leading chemists of many nations for at least 100 years. Its reduction to commercial practice resulting in the development of major industries has been confined to the last 25 to 30 years. The creation of the synthetic rubber industry during the war years was one of several important factors which served to stimulate the growth of the entire chemical industry in the postwar period.

Synthetic rubber is but one of many products of polymer chemistry. Other important ones are synthetic fibres and thermoplastic and thermosetting resins.

Returning to chemistry for a moment, it should be mentioned that there was relatively little interest in Canada in the chemistry of high polymers prior to World War II. Construction of a synthetic rubber plant at Sarnia gave impetus to this field of chemistry and today we have a flourishing group within our Chemical Institute which sponsors an annual High Polymer Forum. This meeting attracts chemists not only from Canada but also from the United States, England and occasionally visitors from France and Germany.

I would suggest that Canada's synthetic rubber industry is one in which we can all take pride. It is an excellent example of how industry and government can work together to advantage when a common urgent purpose brings about a close spirit of co-operation. Under the circumstances prevailing at the time, neither working alone could have created this new industry. Working together in both Canada and the

Mr. ROWZEE

United States they produced what has been called one of the greatest chemical achievements of all time and one which has contributed to the vigor of Canada's postwar chemical expansion.

Growth of Research

Let us turn to research for a moment. It is well known that many of our promising chemists sought and found employment in the United States. When I first came to Canada, I was told that there were few industrial research establishments. The reason given was that most large Canadian companies were connected with much larger organizations in the United States and that research was concentrated in laboratories in that country.

Although this situation continues to prevail in some industries, I see a marked difference in the chemical industry. It is becoming increasingly evident that Canadian chemical companies are recognizing the value of independent research programs and are proceeding to establish their own research facilities. More and more companies are providing funds to support this kind of program. In visiting all parts of Canada during the past two years I found that the change which is taking place is quite apparent. I suggest that industrial research in Canada is on the verge of a substantial expansion.

I am happy to say that Canada's synthetic rubber research which was initiated in 1944 under the guidance of a National Research Council Associate Committee has now become an industrial research effort of major proportions with an annual budget of approximately $1¼ millions.

I should like to express my appreciation for the assistance of a number of Canadian universities in initiating and carrying on a program of polymerization research. This work has provided a number of interesting ideas requiring further development and has also provided a continuing source of personnel having a background in polymer chemistry.

In regard to chemical engineering, I also find that a great change has taken place during the past 10 years. When I first came to Canada, I was interested to observe that many university people did not recognize chemical engineering as a separate and distinct branch of science. As a result and differing from the situation in the United States, the chemical engineer had not achieved the stature commensurate with that accorded his chemical and engineering colleagues. It took the urgencies of construction and operation of plants during the war period to bring home the vital and specialized role played by the chemical engineer in industrial development. During the postwar period the Canadian chemical engineer has come into his own. The demand has far exceeded the supply and all signs point to a continued high level of demand.

It is perhaps worthwhile to note that in the past 10 years a tendency toward the selection of chemists and chemical engineers for executive posts in the chemical industry has become evident. This trend is expected to become more marked in the foreseeable future. It has served to emphasize the necessity for technical men to achieve a broader education and understanding of the problems of the business world. Universities generally have recognized this trend and many have revised their curricula to compensate for specialization.

Let us now consider the implications of the growth of Canada's chemical industry and the mounting requirement which is predicted for personnel with sound chemical engineering training. It seems safe to suggest that in many respects Canada's chemical industry has come of age or is rapidly approaching that point. As men of science we are expected to deal with facts. It is even more important that we be accomplished in handling ideas. The opportunities which await are a function of our skill in this realm. We Canadians have demonstrated our ability and skill in adapting existing processes and developments to this country's needs. We have not yet achieved similar distinction in the generation of new ideas. This situation is a challenge to all Canadians. Success in meeting it will result in opportunities for the Canadian chemist and chemical engineer brighter than any yet encountered.

Need For Training

Opportunities bring with them corresponding responsibilities and we must be ready to accept these responsibilities as they come. One which seems to be particularly urgent is that of educating and training a new generation of scientists and engineers. The problems to be faced are manifold and it is going to require the close co-operation and attention of many groups if we are to be successful in discharging this responsibility. It is hoped that the Chemical Institute of Canada will be of real assistance as we go about this task.

You will recall that a number of eminent individuals have tried to define a profession. They have all had one point of strong agreement, namely that true professional status involves service to society. We, therefore, should have before us at all times the ideal of service. If we acknowledge this principle and accept the responsibilities inherent in the development of Canada's science and industry, the opportunities for our profession are assured.

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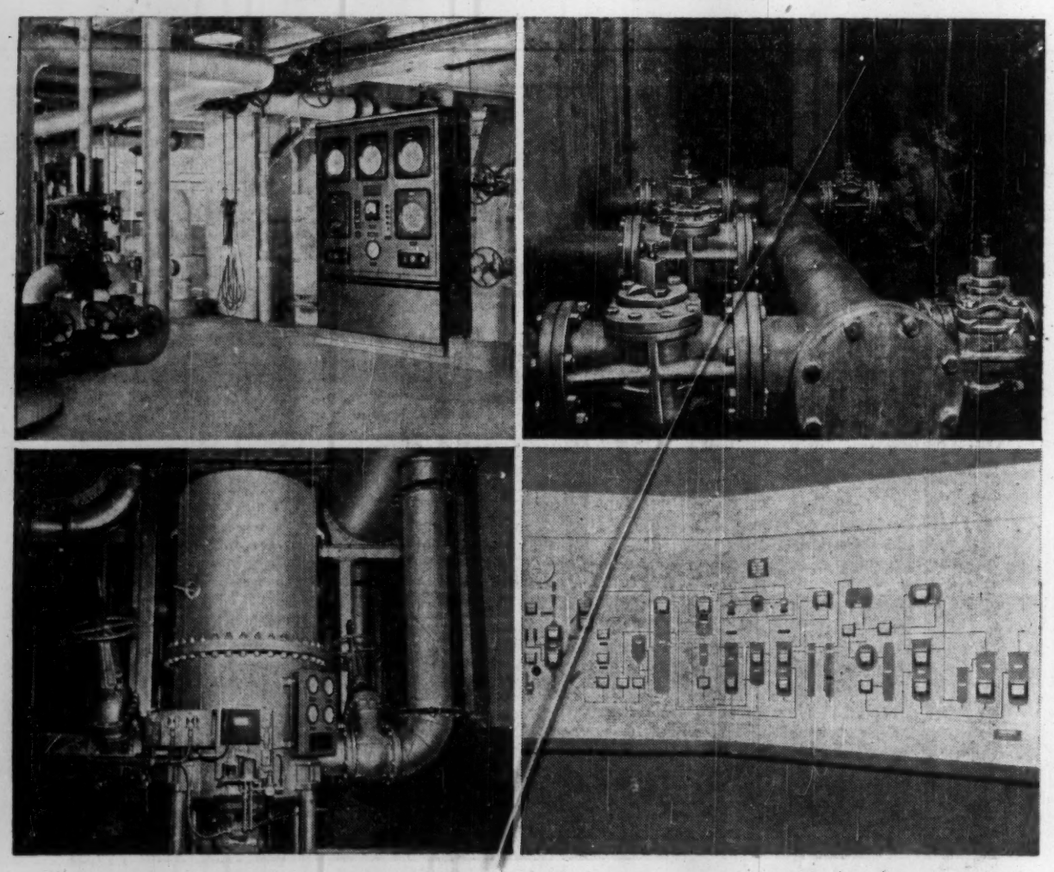

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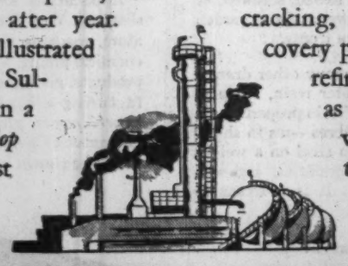

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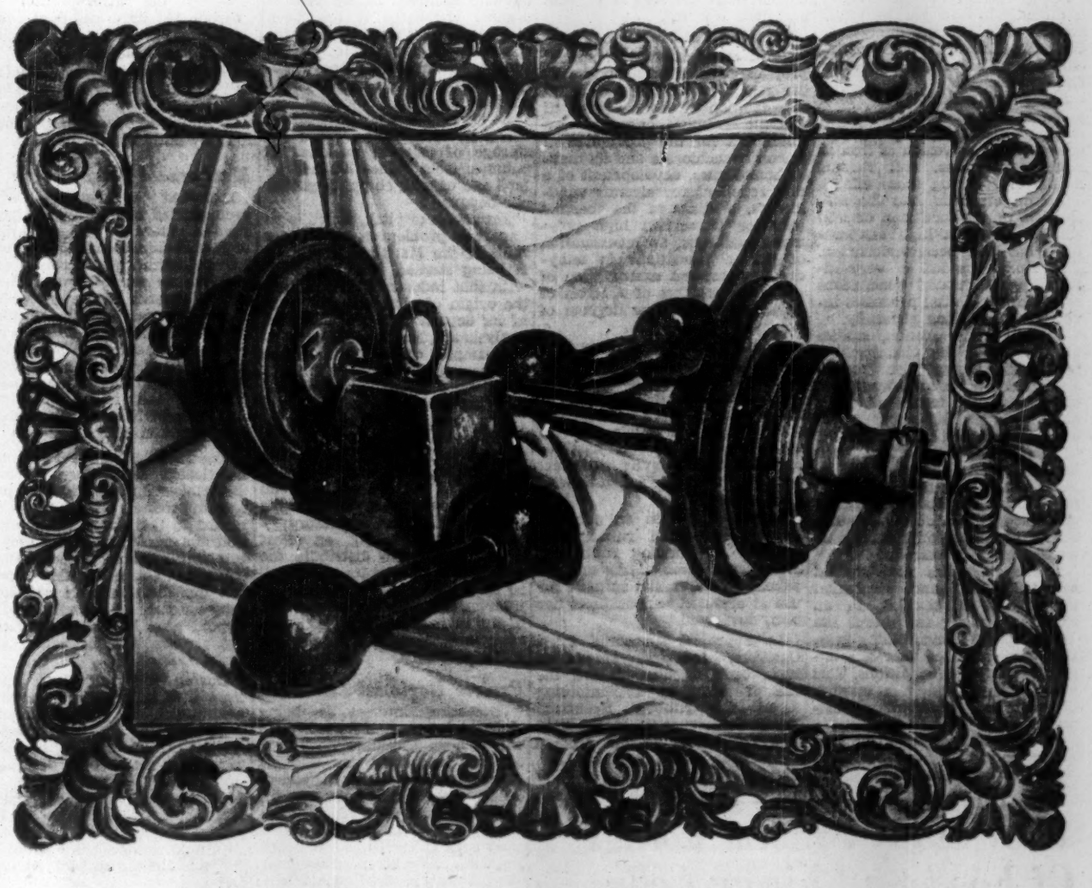

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The National Research Council of Canada, founded in 1916, has an advisory council of 21 members. Most of these men are eminent scientists from all across Canada; others represent labor and industry. They are responsible to a committee of seven Cabinet ministers. The members of council, who serve without salary, select the NRC staff, award scholarships and grants in aid of research, and are responsible for the general direction of the laboratory work.

The NRC laboratories are now organized in nine divisions and two regional institutions — the Divisions of Pure Chemistry, Applied Chemistry, Pure Physics, Applied Physics, Applied Biology, Medical Research, Mechanical Engineering (including aeronautics), Radio and Electrical Engineering, and Building Research, plus the Prairie Regional Laboratory at Saskatoon, and the Maritime Regional Laboratory at Halifax.

Pure Chemistry

The Pure Chemistry Division is concerned with investigations in the major fields of chemistry—organic, physical, inorganic and colloid. Most of the work is fundamental—trying to find out why certain chemical reactions go as they do, and to determine the ultimate spatial structure of unknown compounds.

The Division is organized around a nucleus of outstanding Canadian chemists. Working under the direction of these senior men are approximately an equal number of young post-doctorate fellows who have come from countries all over the world.

Applied Chemistry

A major activity of this division is directed toward problems that are of wide general interest to Canadians. In this category is included work on metallic corrosion and on textiles.

Special attention has been given to corrosion in automotive cooling systems by ethylene glycol solutions, corrosion of iron in aqueous solutions, and various means of reducing these effects.

An investigation into the mechanism of the oxidation of iron and its alloys at high temperatures has also been undertaken. This study has led to very interesting and useful conclusions regarding the initial processes involved in corrosion generally.

In the textile section, studies on laundering, dry cleaning and preservation have been emphasized. Adsorption and desorption of detergents by textile materials have been studied using radioactive tracer techniques. Results of this work have led to a much better understanding of detergent action and have indicated possibilities for obtaining better efficiencies in laundering. A number of pure non-ionic detergents have been synthesized.

The section has also studied micro-biological and ultraviolet degradation of textiles, in an effort to prolong the useful life of cordage, awnings, fishing gear, and other textiles that are exposed to outdoor conditions. This work has resulted in a number of improved preservative treatments.

Co-operative work on problems arising in industry has continued with the Canadian Research Institute of Launderers and Cleaners, and, on special projects, with other government departments.

Petroleum Studies

A second major function of the division is the development of chemical processes that will utilize Canada's natural resources. During the past year, petroleum products have received most attention. A number of sections within the division have contributed to this work on a co-operative basis.

These studies have included thermal and catalytic cracking of Canadian crude oils, development of a method for bleaching lubricating oil using metallic sodium, and continuation of the development of a commercial process for direct oxidation of ethylene to ethylene oxide. These investigations, all carried out on a pilot plant scale, have had many ramifications.

The work on ethylene oxide has led to basic studies on the phase behavior and magnetic susceptibilities of potential oxidation catalysts, kinetics of the photochemical oxidation of hydrocarbons, the catalyzed polymerization of ethylene oxide, physical adsorption at gas-solid interfaces, and reaction rates at the various faces of single crystals of metals.

Other projects have been initiated, dealing with the effects of high pressures on chemical reactions, and with extension of current knowledge of the thermodynamic properties of steam.

Continuous drying procedures that are applicable to heat labile materials have been investigated. These methods utilize a newly-developed technique for contacting solids and fluids and they show considerable promise for industrial use. This work has included thorough studies of heat and mass transfer.

Special Projects

Work on a number of special projects was continued during the year. Among these were an investigation of the oxidation of metallic arsenides, operation of a small unit for the production of silicon hexachloride and its higher homologues, development of a rain repellent for aircraft windscreens, a study of the thermal behavior of certain high polymeric materials, an investigation of phrase transitions in anhydrous soaps, and examination of molecular weights of a series of polymers having low degrees of polymerization.

To supplement the more conventional methods of chemical analysis, the analytical section has been making increased use of radioactive tracers, infra red spectroscopy and other physical methods. This section has cooperated in developing analytical and test methods for use with specifications.

Improvements in an adhesive based on cyclized rubber and suitable for bonding rubber to metal have been made and an adhesive formulation suitable for use at elevated temperatures has been developed.

In a project sponsored by a Canadian industry, researches have been directed toward the use of lignin as a reinforcing agent for rubber. Beneficial effects on the rate of vulcanization and on quality of the product have been realized using this approach.

CLIFFORD B. PURVES

head of the department of industrial and cellulose chemistry, McGill University, has been elected vice-president, Chemical Institute of Canada.

They Study Frozen Storage Of Food And Living Cells

Activities of the Division of Applied Biology range from applied studies on food storage and transport to more fundamental work on the metabolism and chemical composition of living organisms.

The grey discolorization of processed pork has been related to a light-induced oxidation of the meat pigments. Recent studies have shown that this change occurs much more rapidly in the muscle pigment, myoglobin, than in the blood pigment, haemoglobin.

Because of a growing interest in medical and related fields, the frozen storage of living cells and small organisms is under investigation. With red blood cells it has been shown that glycerin reduces freezing damage by changing the pattern of ice formation. The use of glycerin and other protective agents was, however, found unnecessary for the survival of certain bacteria and algae.

Investigations on the blood plasma albumins show that the serum albumin molecule consists of at least two subunits rather than the single chain structure suggested by other workers. Acid- or urea-induced variations in size, shape and interactions of albumin molecules were estimated quantitatively. The presence of a new, more highly absorbent fraction of blood plasma albumin was confirmed and some of its properties studied.

Studies of the production of citric acid by submerged fermentation of beet sugar molasses have shown that the laboratory procedure developed here is feasible on a larger scale. The physiology of the mold used in this fermentation has also been studied with the object of improving yield and efficiency. Absence of a breakdown enzyme is apparently responsible for the accumulation of citric acid. Fermentation conditions favorable to the production of organic acids other than citric have been determined.

The carbohydrate composition of various grains, woods, and marine algae continues to receive attention. In one of these studies, cellulose has been found to contain small quantities of xylose and arabinose. Associated with cellulose in most plant tissues are large quantities of hemicellulose and other complex sugars. Since these materials are usually wasted in industrial processes, their structure is being investigated in detail. The findings are of considerable interest to the pulp and paper industry.

Here's Where The Maritimes Prairies Send Their Problems

The year was marked by a greater diversification of research at the Maritime Regional Laboratory. The development of a section to be devoted to problems in physical and chemical metallurgy in relation to the iron and steel industry has progressed to the point where two specific investigations have been formulated: the kinetics of the reaction between gaseous oxygen and carbon dissolved in molten iron; and the activity of phosphorous pentoxide in molten slags and the conditions of partition between metal and slag.

Co-operation between the biological and chemical sections has been effective in the discovery of a new anti-coagulant for mammalian blood. Basic material for this product is cheap and abundant, and it comes from kelp, a type of seaweed; the synthetic compound has been shown to be nonpoisonous in large doses and to act for the required length of time. The product is not yet in commercial use.

Other fundamental and applied aspects of the utilization of seaweeds constitute a major part of the research program. To give but one example: in the field of organic chemistry it has been possible to shed more light on the structure of carrageenin, an extract from dried Irish moss widely used in the food industry as a stabilizing agent.

A study of the biochemical changes which take place on storage of selected varieties of potatoes from Prince Edward Island and of their chipping quality has begun.

Formation of pitch, which is an important problem in some paper mills of the Maritime Provinces, is being studied in co-operation with that industry. Since neither the origin of pitch nor the cause of its deposition are understood, analysis and fractionation of various samples of pitch formed the first part of this study.

Fractions were differentiated into free fatty acids, free resin acids, glycerides, unsaponifiable matter, and water-soluble material. Conditions under which pitch is deposited and the effectiveness of various additives on this phenomenon are now being investigated in the laboratory.

Generally speaking, an effort is being made to distribute the activities of the professional staff so as to incorporate problems of interest and significance to most of the major industries, both primary and secondary, in the Atlantic provinces.

Prairie Regional Lab.

Increasing interest is being shown by Canadian industries in the various processes developed in this laboratory for utilizing farm products. Close liaison is being maintained between the laboratory and the Trade and Industry departments of the prairie provinces. In exchange for reports on work in progress throughout the laboratory, these departments make available to the laboratory their market and economic surveys, which, in turn, serve as a guide in research planning.

The laboratory's engineering and process development section provides several illustrations of this interlocking action of industrial and economic research.

Take, for instance, studies on the utilization of straw as a pulp source. Preliminary costing analysis for production of fibre boards of the insulating type shows that, while "the operation can now be performed successfully, the patient may still die" if economic or marketing conditions are not just right.

And since market surveys and current trends in production indicate that hardboard or "synthetic lumber" will be a major building material, the laboratory is also shifting its emphasis to this field: as a first step, a comparison of costs between production of hardboards and insulating boards is being planned.

This section is also studying water resistance in fibre boards. Sizing reactions between native constitutents of pulps and metallic salts have been clarified. It has been found that most pulps can be sized by treatment with metallic salts at the appropriate degree of acidity. This reaction is not confined to straw pulps but may also be used on commercial wood pulps. Action is being taken to secure patent rights in this field.

Patent applications have also been made covering a new fermentation for the production of glycerol, d-arabitol, and erythritol.

While these developments may ultimately have industrial significance, it must not be forgotten that much of the work is aimed at increasing our basic knowledge of biological and chemical systems. For instance, one of the laboratory's three sections, which deals with chemistry of plant products, carries out literally dozens of fundamental studies on carbohydrates, proteins, and fats and oils.

Biochemistry of the higher plants is also being advanced on several fronts:

—By more extensive use of radioactive carbon in the study of lignin formation, both in wheat and in woody plants.

—By conversion studies of labeled sugars to cellulose and xylan in wheat plants.

—By the incorporation of carbon-14 into cellulose and xylan, from ribose, xylose, glucose, or sedoheptulose.

The importance of radiotracers as research tools in these studies is pointed up by the fact that a new radiotracer laboratory annex is to be built within the year.

Mechanical Engineering

Extended experiments have been carried out during the past year to determine the suitability of the Western Canadian fuel oils for industrial gas turbine use. The earlier work by the Fuels and Lubricants Laboratory which indicated that, at gas turbine temperatures, much less corrosion would result from these fuels than from using oils from almost any other oil field, has been confirmed by tests in the laboratory on blades of Nimonic, Inconel-X, and Vitallium alloys.

The facilities of the Fuels and Lubricants Laboratory — which undertakes investigations of petroleum products particularly with regard to their practical application and performance in aircraft, automotive and mechanical equipment—are being extended to permit qualification tests of heavy duty automotive and marine oils, hypoid gear lubricants, lubricating greases, and hydraulic and brake fluids.

During the past year, apart from a large volume of routine testing, projects have included a comparison of anti-icing alcohols for gas turbine engines, development of a method for determining mercaptan sulphur in jet fuels, storage stability of aviation fuels, and an evaluation of improved brake fluids, in addition to a number of specific problems for the Department of National Defense.

Naugatuck Makes New Type Plastic

A new policy in the Canadian marketing of polyester resins has been announced by Naugatuck Chemicals, manufacturers of Vibrin polyester resin at Elmira, Ont. Under this policy Naugatuck will supply resins fully formulated for particular uses, where volume requirement is sufficiently large.

The fully formulated Vibrins will generally include promoters, thixotropic agents, and pigments, as desired, which will be incorporated into either a straight resin or a blend of two or more Vibrin types.

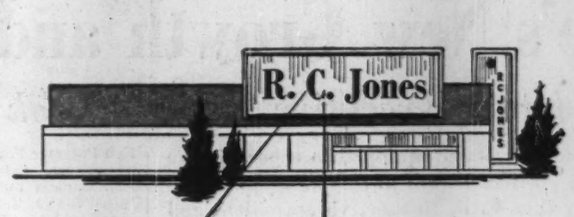
Production of Vibrin F-1, a new polyester resin type, has been started by the company. Especially developed for boat building and boat covering operations, Vibrin F-1 is the first fully formulated resin of its kind to be offered to Canadian users.

$750,000 Program Boosts Output Plastic Items

By Aug. 1, Minnesota Mining and Manufacturing of Canada Ltd. will have its $750,000 expansion program completed in London, Ont., and will substantially increase the manufacture of plastic items.

Extruded plastics such as garden hose and pipe, bottle cap laminates, varnishes, varnished cambrics and special abrasive and adhesive tapes for the automotive and aircraft industries will be produced by means of the latest machinery and methods. These products will round out the electrical insulation, coated abrasives, pressure-sensitive tapes and reflective materials made by the 3 M Company.

An additional 47,400 sq ft of floor space will be provided in the new buildings, and the 100-acre property will include extended railroad facilities and roadways. On completion of the new plant the Irvington division (formerly Irvington Varnish and Insulator Co.) will be transferred from Hamilton to London.



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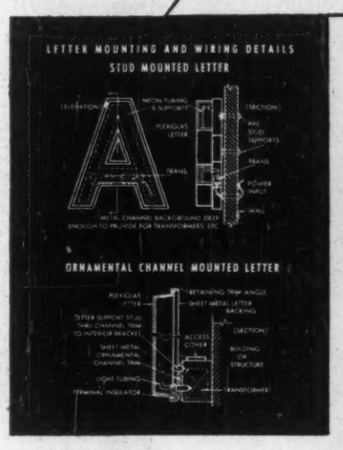

By night, by day, Plexiglas leads the field in display signs and letters. New designs in signs are made possible by the unlimited versatility of Plexiglas. Clear, richly coloured by day, a brilliant display by night, Plexiglas signs and letters are a step ahead.

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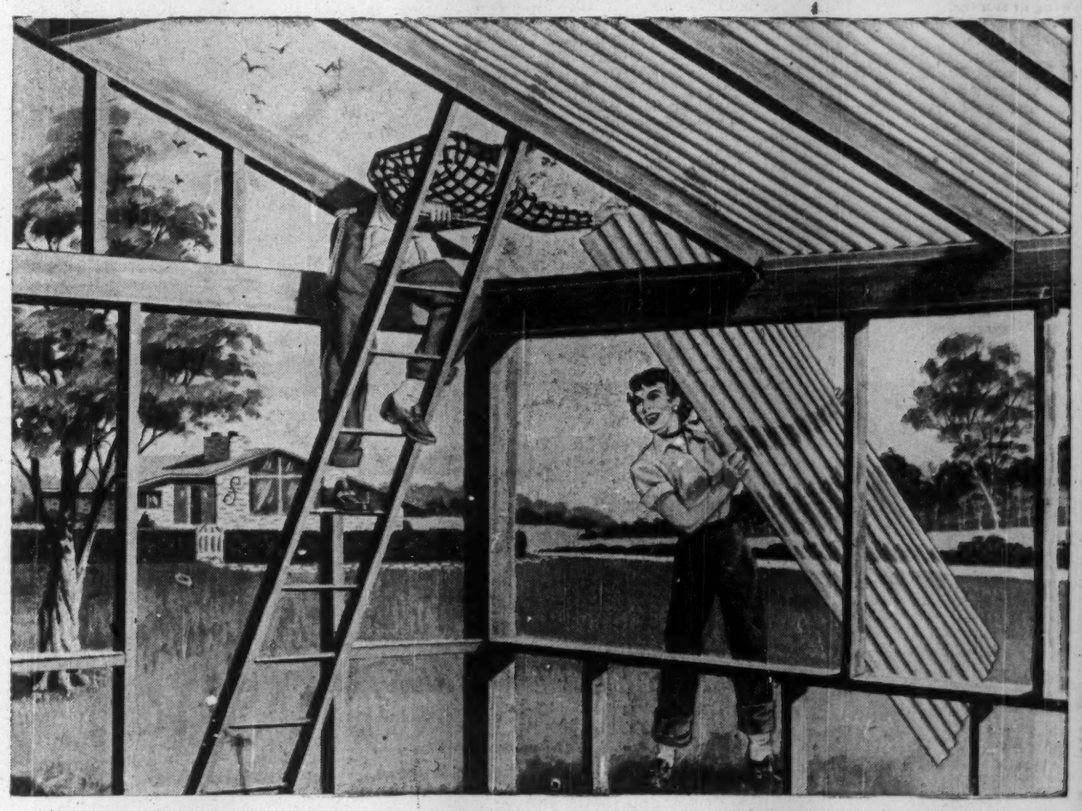

UP COMES a bright new idea with Vibrin

ONE OF THE BRIGHTEST new ideas in the building and decorating fields is the colorful translucent sheeting shown here as a patio roof. Shatterproof, permanent, and extremely light, it is unaffected by moisture, mildew, heat or cold. It is easily nailed, sawed, screwed, or bolted to make everything from shower stalls to garden walls, from factory skylights to store fronts.

Back of this new sheeting — and many other dramatic developments — is Vibrin polyester resin, made in Canada by Naugatuck Chemicals. Vibrin properties are remarkable. Reinforced with glass fibres — as in sheeting — it is many times stronger than steel on a weight basis. It has excellent structural qualities, and will not dent, sag, craze, warp or rust. It is resistant to most acids and alkalis.

Vibrin is extremely easy to form, requiring little or no pressure or heat. Tools and molds are inexpensive. Short runs are economical and profitable.

Applications for Vibrin are almost limitless. Besides sheeting, they include boat hulls, fishing rods, insulators, machine housings, luggage, aircraft parts, and chemical piping. Vibrin is constantly improving present products, giving reality to new ideas, and cutting manufacturing costs — *even for those with no previous experience in plastics.* For full details, call or write Naugatuck Chemicals, Elmira, Ontario, or branches shown below.

Other NAUGATUCK Plastics:

MARVINOL
Vinyl resins offering good physicals, easy processing, low temperature flexibility, and resistance to oils, acids, and wear.

KRALASTICS
Molding and extrusion compounds combining rigidity with exceptional toughness.

Test Tube Wizards Strike Friendship With Paint Trade

The chemist has become the paint salesman's best friend. In some of the most revolutionary developments in the history of the paint industry, researchers have created an amazing variety of multipurpose and special purpose paints that have sent retail sales zooming up.

Most of the upsurge has come since the end of World War II. It has centred on development of synthetic paint products that have gone a long way toward displacing or supplementing traditional paint ingredients. Where once the paint-maker relied on linseed oil, natural resins and appropriate pigments, he now is using dozens of resins and plastics—and producing a better paint.

Debate is still open as to which of the new synthetics will take the major slice of market cake. So far, with sales expected to rocket to a record high this year, it looks as if the main race is between latex emulsions and alkyds with polyvinyl acetates running as a dark horse. But, with research continuing to seek low-cost and effective uses for all the synthetics, a market upset is possible by any of the contenders.

Here are a few of the main developments:

Latex-base, acrylic resins, alkyds, polyvinyl acetates, silicones, and multicolor finish paints are all being sold competitively in Canada. Most of them are manufactured or sold by the main paint firms with each tending to stress one favorite line. Each has advantages which suit particular jobs.

Latex-base, or "rubber" paints are mostly synthetics—tiny particles suspended in water with pigments. When applied, the water evaporates, the pigments enter the latex which coalesces, leaving a thin, continuous, colored, rubberlike film. Advantages: Ease of application, no odor, wide range of colors, can usually be applied directly over plaster walls without primer coat.

Question of Cost

Acrylic resins may replace latex emulsions for some uses. However, the resin is more expensive than the latexes and some manufacturers feel the extra features will not justify a wide price differential. Advantages: good color permanence, washable, resistant to oxidation, easy to apply and resists freezing and thawing in storage.

Alkyds are resins formed by processing glycerin or pentaerythritol, phthalic anhydride and vegetable oils. The alkyds lend excellent durability to protective paints and rival the latex-base paints in share of the market. Advantages: versatility, durability, wide solubility, resistance to scrubbing and scouring on walls, recoat well, odorless. Synthetic structure of alkyds doesn't use as much oxygen to dry as natural structure types resulting in a more stable film, high water impermeability, better ageing characteristic.

Polyvinyl acetates, are emulsion-type synthetics which are generally suitable for indoor and outdoor use. Pioneered in Canada by Canadian Resins and Chemicals, the emulsion is now put out by most major paint manufacturers. Advantages: Will not oxidize or discolor, alkali resistant, odorless, quick-drying, suitable for salt water areas, adheres to many surfaces, high freeze-thaw stability. Disadvantage: acid qualities of paint.

Silicones are essentially highly stable groups of silicon-and-oxygen molecules related to quartz. They're expensive and pending further research, they'll likely find their main use in specialized paint jobs. Advantages: resistant to heat, moisture, weather-wear; odorless; can be handled like most organic resins. Uses to date: bakery bread pans, exhaust piping, boiler, oven protection.

Multicolor finish paints, based on a combination of synthetic resins, are gaining a growing market for indoor use. Introduced last year by Roxalin of Canada Ltd., New Toronto, the paints now are handled by three Canadian manufacturers. Main use will be limited since the paint has to be sprayed on and is priced, for most jobs, a little higher than the general resins. Advantages: conceals scrapes, scratches on walls; resistant to washing, cleaning fluids; provides multicolor effect in decoration; one coat application. Tests are now in progress on an exterior multicolor resin paint as well. Disadvantage: limited shelf stability makes storage limit about 3-6 months.

New Lines, More Firms

Recent major developments by Canadian Industries (1954) Ltd., in its paint and varnish division include a new odorless alkyd enamel ("Ciltone") for interior use in gloss, semigloss and flat paints. The company reports marked improvements in automotive enamels during the year resulting in better gloss, color retention and durability.

Another development at CIL 54 is a new line of primers and enamels for refrigerators and other household goods. They are said to offer greater resistance to water, soap, alkali and scratching with improved appearance, depth and gloss.

Imperial Varnish & Paint Co. have been marketing a polyvinyl acetate line ("Duraflex"), and various latex paints on a limited basis pending the results of more complete testing of the effects of Canadian climatic conditions. The main attention has been given to the company's odorless alkyd finishes introduced two years ago and the development of the "colorizer" system. The system provides three basic colors—white, grey and a deeper shade—which when mixed with tubes of color pigment can provide a range of 1,322 possible colors.

The company is also manufacturing less extensive systems for sale to chain stores and other manufacturers.

Colorizer is credited with an estimated 20% increase in total Imperial sales this year over last.

Dow Chemical of Canada, pioneer of latex for paints in Canada, introduced styrene butadiene latex last year for use in making paints for exterior masonry, concrete and asbestos shingles. The company, which manufactures styrene for interior use at its Sarnia plant, is importing the exterior styrene latex pending development of the market. Officials said no decision has yet been made on whether production of exterior styrene will be started in Canada.

The paint business is booming again after a slight fall-off last year. Total 1954 sales dropped to $102 millions after hitting a record $109 millions in 1953. During the first three months of this year, sales of $24 millions were recorded, with indications of a market for the year of up to $120 millions.

So far paint sales are running about 11% ahead of comparable months last year. Main reasons are a pickup in industrial production, consumer income, new housing and business construction. Biggest items are trade sales and industrial sales, which account for about 85% of the total market, latex emulsion (6%) and water paints (2%).

Raw materials continue in good supply for almost all paint manufactures. Titanium pigments are tight with prices increased during the year but supplies are expected to level out in a month or so. Other pigments continue in good supply with some price rises in black pigments, chrome colors and calcium carbonate. Oils and resins continue in adequate supply at generally steady prices.

Added competition appeared during last year with U.S. and U.K. firms locating in Canada and several Canadian firms expanding their plant capacity. British Paints (Canada) has taken over Langmuir paint plant at Oakville, Ont., and is producing Langmuir products and a selection from the line of the parent British Paints Ltd., largest paint organization in the U.K. At present the company is concentrating on oil base and marine paints in Canada.

Du Pont of Canada is planning entry into the automotive refinish business through its chemical department with products expected to be on sale by July 1. Plans call for expenditure of up to $10 millions on total Du Pont expansion in Canada.

Schenectady Varnish has purchased a plant in Scarborough, near Toronto, for the manufacture of synthetic resins and insulating varnishes.

Roxalin of Canada Ltd., New Toronto, has gone into production of Roxatone, under license from the patent holders, Coloramic Corp., Los Angeles.

Valspar Corp., Ardmore, Penn., and O'Brien Corp., South Bend, Ind., are negotiating for purchase of plant facilities for Canadian operations. Currently marketing their products in Canada through agencies, the companies are among those firms seeking to set up Canadian production to avoid a sizeable tariff on imported paints.

Canadian Industries (1954) Ltd., is spending about $3 millions on additional paint production facilities in Toronto this year. The program includes a new lacquer plant and doubling of production capacity of the Toronto (York) enamels and resins works.

Extensive warehouse construction is being planned and undertaken in Montreal, Toronto and Burlington, Ont., reflecting the general increase in market sales during the last six months.

Imperial Varnish & Color Co., the largest wholly Canadian-owned company currently in the paint business in the Dominion, is planning an increase in warehouse capacity. Company officials say they are "very optimistic" about future expansion, with a considerable part of existing plant capacity being worked on a two-shift basis.

Increasing emphasis is being placed on educating the public on the proper use of paints. Researchers grappling with the problems of paint failures have come up with these suggestions:

—Excessive moisture in the home, a prime cause of paint failure, can be eliminated or prevented by adequate ventilation and drainage, proper vapor barriers (such as paint film and coated building papers) and protection of crawl spaces.

—Other paint failures can be avoided by using the right paint for the job, preparation of paint according to specifications, competent application, careful preparation of surfaces.

NEW, MODERN and exciting textiles from the test tube please this mother-daughter duet, decked in silky-soft acetate crinkle crepe by Molyclaire Lingerie (Montreal). Not shown is a duster for mom which matches the pyjamas to make an ideal travel set with built-in style and comfort and washing ease and little ironing.

Sarnia Wax Plant To Use New Process

The all-important research steps which led up to the decision to build a $4.5 million wax plant at Sarnia, Ont., were revealed this week by Dr. R. K. Stratford, scientific adviser to Imperial Oil.

Appearing before a session of the World Petroleum Congress at Rome, Dr. Stratford reviewed the years spent in exhaustive investigation of every known process of making waxes from petroleum.

After the early stages, J. L. Tiedje, a member of Imperial's research department and his coworkers built a $100,000 pilot plant and began experimental production of new waxes in small quantities. Result was Imperial Oil's decision to build a full-scale plant capable of turning out about 35 millions lb of wax a year.

One wax which the research team developed for production in the new plant is a type which combines good characteristics of a hard, brittle and soft, pliable waxes. It has an attractive high gloss and stands up to rough handling.

The paper outlined the research which led to the choice of a process called fractional recrystallization for the new wax plant. The experiment showed that this process when combined with vacuum distillation will make a wider variety of waxes than is possible by any other method, will produce waxes of higher quality, and will yield more wax from a given amount of oil.

These Advisers Get No Pay, Do Work Of National Scope

The National Research Council is linked to Canadian industry in several ways:

—Through visits between laboratories and industries.

—Through work done in NRC laboratories.

—Through its system of associate committees.

—Through its patents organization.

—Through its Technical Information Service.

The Associate Committees of the National Research Council are a distinctive Canadian method of co-ordinating scientific work. We had to do something of the kind because of our large area and a relatively small population. To deal with a scientific problem of national scope, an associate committee is formed—with members from the Federal Government, provincial governments, the universities, and the industries concerned with the problem. These men, who serve without salary, recommend what should be done and where.

Foreign visitors are impressed with the remarkable effectiveness and economy of this mechanism, and we now have 28 of these associate committees on problems as wide apart as plant breeding and corrosion.

Another link with industry is through Canadian Patents and Development Ltd., a body set up, in the first place, to handle inventions of the NRC, but which now handles the inventions of many other public organizations. They do not sell patents. They rent them to industry under what they call a license. The inventors get a share of the profit, but most of it is plowed back into further research and development.

Another useful group is the Technical Information Service, set up to help Canadian industry and especially the smaller industries. About 60 million pages of technical material roll off the world press every year, in many languages, and the Technical Information Service tries to make the useful part of this great mass of material available to particular industries.

They answer between 7,000 and 8,000 inquiries a year. For example, one day's mail brought these requests and others for information.

—On manufacture of silver-plated copper yarn.

—Epidemics caused through faulty plumbing.

—Construction of a suction dredge.

—How to remove verdigris from a copper vat.

—Comparative costs of heating with various fuels.

—Setting of knots in nylon fish nets.

—Preserving the natural color of botanical specimens embedded in plastic.

—An oxidizing agent for polyethylene.

—Seed separation.

—Rust prevention in a steam system.

—Manufacture of sawdust concrete.

—Coding of food packages.

—Hot press veneering.

Inquiries dealt with by the Technical Information Service have been well distributed among the various fields of technology. However, it is interesting that the largest of these fields of technology is that of chemistry and chemical industries, which account for slightly more than 25% of all inquiries.

Bathtub Delay Gave Plastics President A New Factory Line

Hugh Dodds, president and founder of Aero Marine Industries Ltd., Oakville, Ont., is one of hundreds of manufacturers who have discovered that you can do just about anything with plastics.

He has a good testing ground—his own home. A frustrating experience with a new bathtub for instance, provided the inspiration for a new line for his factory.

What happened was this: Dodds' ordered a bathtub for his new factory penthouse. But it took about three months to arrive and then it was found to be damaged. He waited two months more for a replacement, and then took things into his own hands.

His experience in molding unusual shapes from reinforced plastics indicated that a bathtub might be formed of the same material. The first tub he molded proved completely satisfactory. It took an attractive color and is so light it can be held on edge with one finger. It weighs just 75 lb., while the standard tub tips the scales at about 500.

Spurred on by this success, Dodds produced a matching washbasin. He followed that up with Fiberglas-reinforced plastic flagstones for the patio.

Dodd's factory can completely furnish a bowling alley — even to the streamlined ball returns and bowling benches — with Fiberglas-reinforced plastic as the principal material. Aero Marine also produces surf boards of the same material. A Newmarket, Ont., firm is using it to make bows and arrows.

Safer, lower-cost shipping of corrosive chemicals is assured by light, unbreakable polythene bottles.

Bags of tough, transparent polythene film have unusual tear resistance—keep fruit, vegetables fresh longer.

Flexible, lightweight polythene pipe speeds the laying of water lines; is proof against rusting, rotting, scaling.

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Housewares

do not chip, crack or break...

They're a better buy because they last longer and retain their good looks. Canadian housewives (according to two separate surveys) prefer *flexible* plastic housewares. They're buying more polythene tumblers, bowls, juice containers, scrapers, bottle caps . . . and a multitude of other *unbreakable* polythene housewares and toys.

POLYTHENE'S USEFUL PROPERTIES—lightness, toughness, chemical resistance and other valuable features, provide the answer to many production and merchandising problems. So consider polythene for your business, too . . . it can mean reduced costs, increased sales, simplified production. For further information or technical service, write to Canadian Industries (1954) Limited, P.O. Box 10, Montreal.

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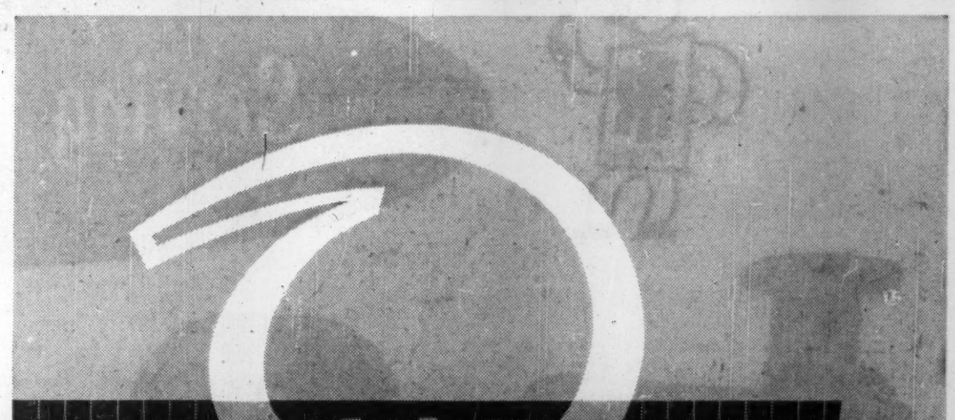

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If you have a problem in the chemical engineering field . . . call Alchem today. Alchem's offices are located across Canada.

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How Chemistry Means More from Mines

Leach Processing Spells End Of Many Problems

The chemical industry looks like a sure winner in the battle of "dollar metallurgy."

No one metal can do all the jobs required in an alloy age. Nickel may be a top for corrosion resistance, columbium of great significance in high temperature work, uranium a key in things atomic, lithium beckoning.

But whatever the metal or mineral, odds are that chemistry is playing an increasingly important part in its economic recovery.

Only a few years ago the word "leach" was little known and, in metallurgical laboratories, "hush hush." There is still quite a bit of reticence in some quarters about admitting the carrying on of leaching research but the word is now commonplace in mining parlance.

Wherever there is a new metal—and a metallurgical problem—the odds usually are that leach (chemical) processing may be the final answer to recovery problems. It's true that leach plants are of the multimillion dollar variety, requiring large outlays for expensive processing equipment, stainless steel, etc. But leaching usually provides low costs—and a recovery much closer to 100% than older "conventional" methods. And for at least some minerals, it appears that there may be no alternative to leaching for commercial extraction of valuable metals.

The last 10 years have been remarkable for emphasis on new metals. Before World War II, nickel, copper, lead and zinc, appeared to answer most requirements along with the old standby, iron. But an entirely new approach to extractive metallurgy has come with emergence of demands for uranium, columbium, lithium, tantalum, the rare earths, etc.

Significant Developments

This last year has seen numerous significant developments in the field of chemistry and mining. It witnessed the final successful commercial scale operation of the ammonia leach nickel recovery process of Sherritt Gordon Mines at Fort Saskatchewan, Alberta. This was the pioneer Canadian leach process for the nickel industry and its successful operation means much for nickel-copper metallurgy. Already another company, Eastern Smelting & Refining plans to use the process under license for recovery of nickel at a new smelter-refinery to be established at Chicoutimi, Que. Like Sherritt, this company expects to have a substantial output of fertilizers as a byproduct.

The new International Nickel Co. $16 million plant for treatment of pyrrhotite containing low nickel values for turning out high grade nickel ore has been revealed to be based on an atmospheric ammonia leach process. The first iron pellets from this new plant are expected to go forward to markets late this year. A new technique will be used which will obviate the need for a binder, such as bentonite, for turning out pellets.

International Nickel Co., of course, gets deeper in the chemical business with the years. There is a considerable use now of oxygen in metal processing. During 1954, over 250,000 tons of copper were oxygen flash smelted in a new furnace at Copper Cliff. This meant major economies including a saving of 60,000 tons of coal—and provided accompanying large-scale recovery of sulphur as sulphur dioxide.

Falconbridge Nickel Mines—Inco's running mate in Ontario's Sudbury area—is also quietly getting into the leaching business. A large scale roast-leach plant is now in operation. This year important decisions must be made regarding further plant facilities. Leaching could conceivably replace traditional smelting as far as additional facilities are concerned. But time is of the essence and at the moment it looks as if "stop gap" expansion to prevent a bottleneck at the smelting level will involve construction of a fourth blast furnace—a larger and more modern unit than its predecessors. however, the management is pleased with progress on process research and in time expects that byproduct iron will be turned out.

Uranium Tie-in

The way in which mining can become a major market for the chemical industry is shown by the Algoma uranium camp between Sault Ste. Marie and Sudbury. Noranda Mines plans a sulphuric acid plant with a capacity of 500 tons to take care of requirements of Algom Uranium Mines.

Processing of uranium ores is rapidly becoming a great market for sulphuric acid. Gunnar Mines has completed a large acid plant at its Beaverlodge property and will consume about 12,000 to 14,000 tons of sulphur a year. The Ace mine of Eldorado Mining & Refining uses a caustic soda leach. There are reports that Eldorado now plans additional milling facilities at Beaverlodge and different process techniques may be used.

Taken in the aggregate, the Canadian uranium industry looks to have a tremendous potential for consumption of chemicals. All important companies thinking in terms of production have leach processing of ores in mind. The Algoma, Beaverlodge, Bancroft and Kamloops (B.C.) areas have already demonstrated a huge potential for uranium production.

Columbium, Lithium

At least four large columbium mines have been demonstrated in Canada over the past two years. Despite the fact that the U.S. recently suspended purchase of columbium from without its borders, columbium appears to have remarkable long-term possibilities. The new Canadian deposits in the Oka, North Bay and Sudbury regions undoubtedly will possess great importance at some future date. Columbium ores located have usually shown the need for considerable researching for economic recovery of columbium pentoxide. So far leaching appears to hold the greatest general promise for treatment of Canadian columbium ores. Extensive research on columbium ores of Beaucage Mines in the North Bay district indicates that substantial quantities of chlorine may be involved in ultimate treatment plans.

Recovery of lithium from spodumene pegmatite dike occurrences in the Amos district of Quebec is expected to be completed by a relatively simple process which will not involve leaching. But Quebec Lithium Corp., a scheduled large lithia producer, plans to carry on extensive research on lithium itself in an effort to develop new uses in the chemical sphere. Research at Ottawa has shown lithium to be a valuable—and recoverable—catalyst in a number of process applications.

The future seems to hold greater and greater promise for applied chemistry in the mining field. Two factors appear to point this way. First, the new metals coming into the limelight are usually fairly readily recoverable by leach process of which there are now an expanding variety. Secondly, as richer deposits of minerals in the earth's crust become exhausted, more efficient leach processes will probably be drawn on to an increased extent.

Corrosion Is A $300 Million Challenge To Laboratories

Corrosion costs the people of Canada over $300 millions a year and is a problem that affects every person in the country.

Corrosion is concerned with motor car radiators and metal parts, agricultural equipment, water tanks, roofs and gutters, fishing gear, telephone and power lines, and children's toys.

"The complexity of the problem suggests that the brightest prospect for ultimate success lies in supporting and developing research studies in the universities, and thus providing competent, well-trained scientists who will continue to produce in increasing amounts the data upon which practical solutions are based," says Dr. H. D. Smith of Halifax, chairman of the National Research Council's Association Committee on Corrosion Research and Prevention.

In the past year, investigations of both theoretical and practical interest have been undertaken by four universities and by various government and industrial groups such as the NRC, the Naval Research Establishment of the Defense Research Board, Dept. of Mines & Technical Surveys, Provincial Research organizations, and the Pulp and Paper Research Institute.

Among the problems now engaging the attention of various Canadian corrosion experts are the following:

—Corrosion of domestic hot water tanks.

—Underground pipeline corrosion.

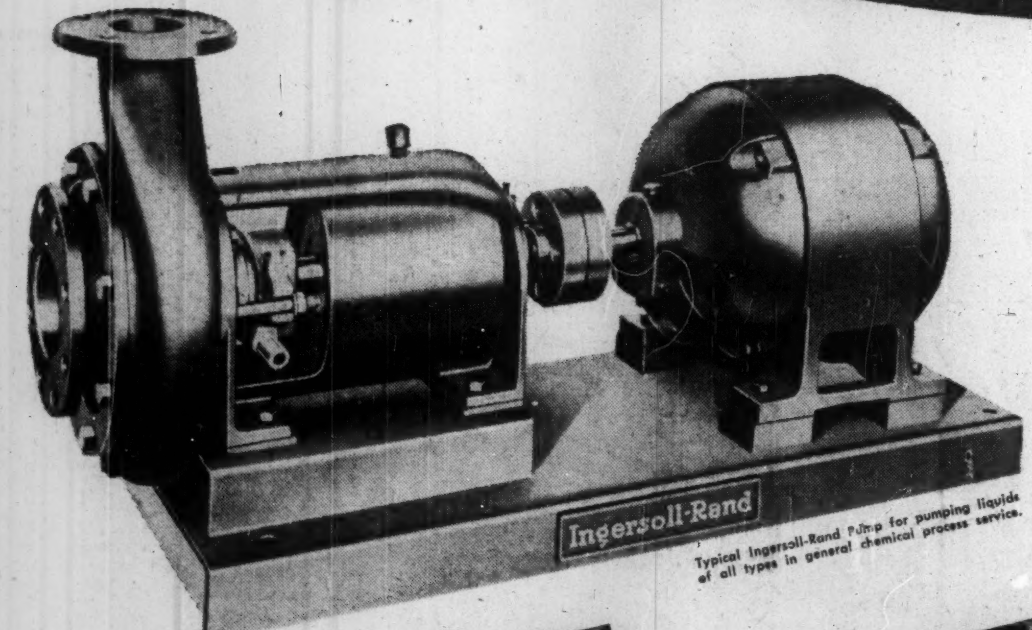
—Corrosion of alkaline pulp digesters.

—Hydrogen blistering of steel.

—Effect of corrosive gases.

Corrosion presents a continuous challenge. "There is no simple solution," says Dr. Smith, "but the potential savings are so great that extensive expenditure on industrial and scientific studies is more than justified."

Serving the Chemical Industry



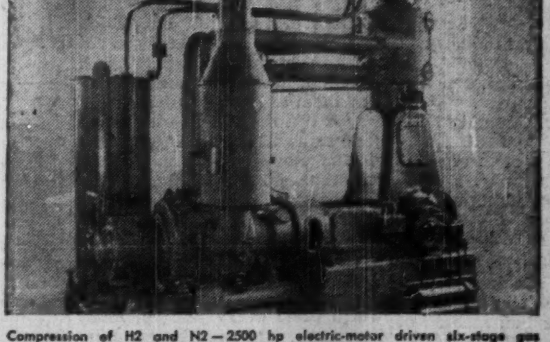
Typical Ingersoll-Rand Pump for pumping liquids of all types in general chemical process service.

The greatly expanding chemical/petro-chemical industry of Canada — where so many materials vital to other industries are produced — where the commercial applications of scientific advancement are carried out — is well on the way to its future place with leading Canadian industries.

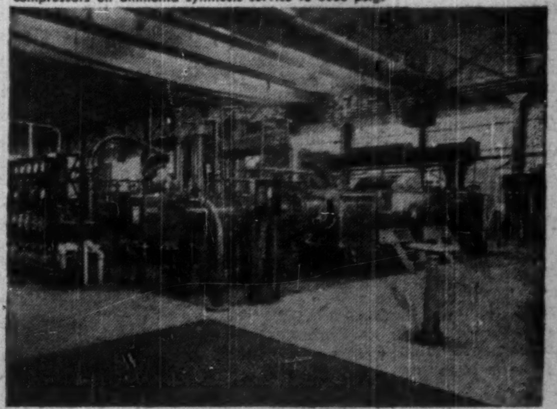
New and improved processes have called for new and improved equipment and our engineers have worked closely with the chemical industry to develop and build this necessary equipment. In fact, for nearly 80 years Ingersoll-Rand experience and skill have been at the service of the industry.

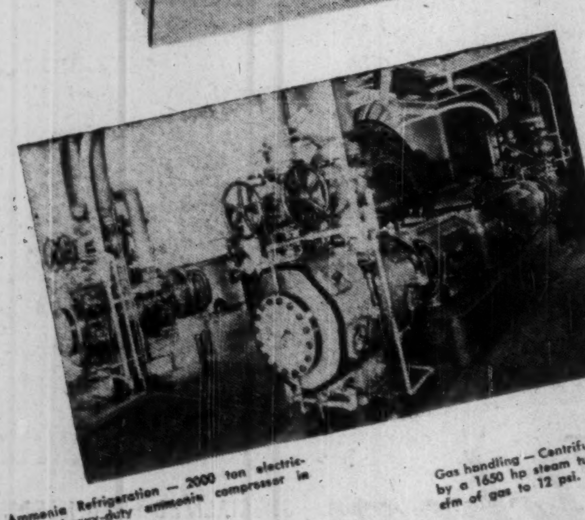
Synthetic ammonia — 12,500 hp total — five I-R six-stage synchronous motor driven compressors handling nitrogen and hydrogen to 5000 psi.

Oxygen production — This five-stage electric-motor driven compressor handles air from 0 psi to 3000 psi.



Compression of H2 and N2 — 2500 hp electric-motor driven six-stage gas compressors on ammonia synthesis service to 5000 psig.





Ammonia Refrigeration — 2000 ton electric-driven heavy-duty ammonia compressor in brewery service.

Gas handling — Centrifugal gas blower, driven by a 1650 hp steam turbine, handling 27,900 cfm of gas to 12 psi.

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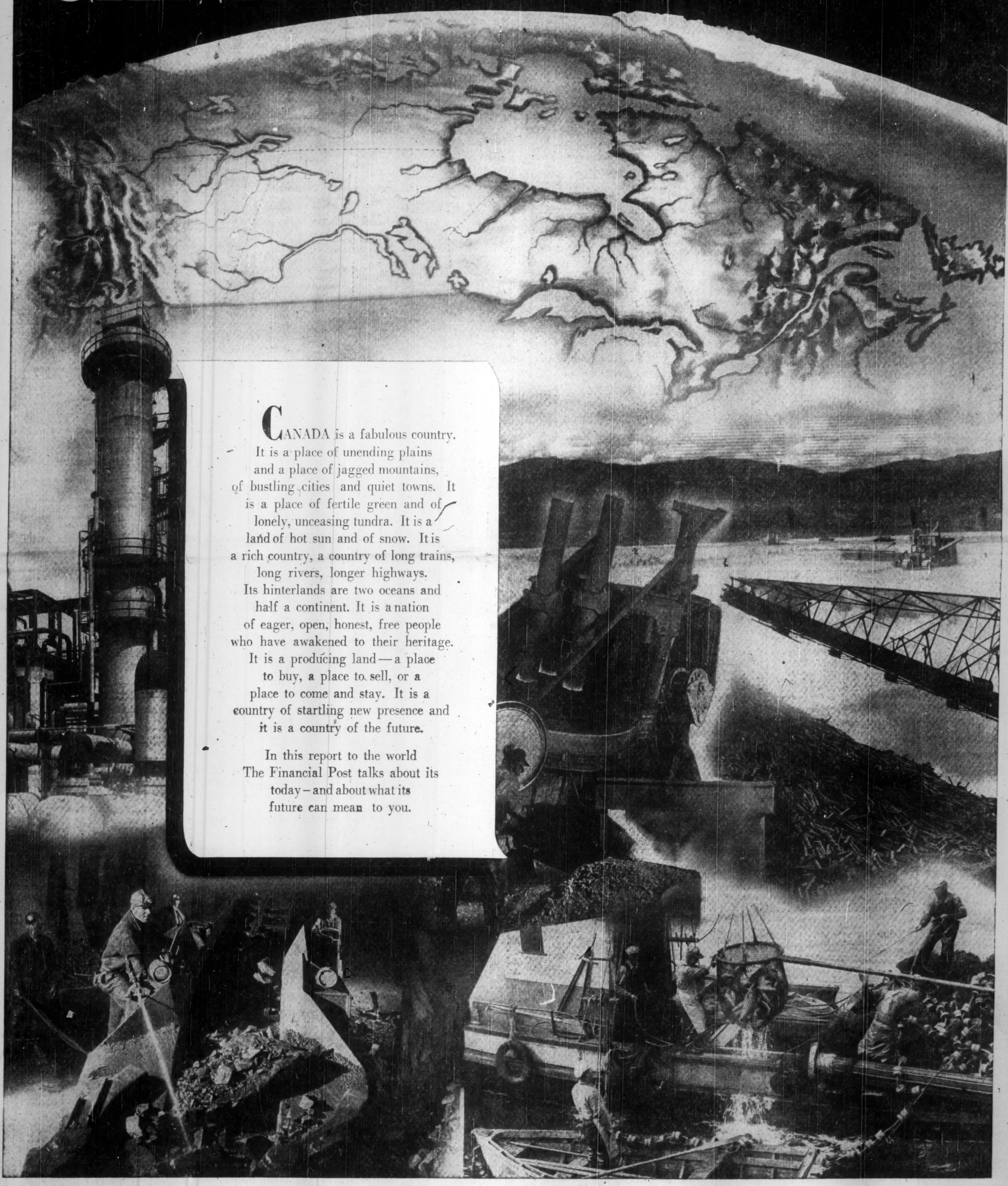
CANADA 1955

A report to executives throughout the world by

The Financial Post

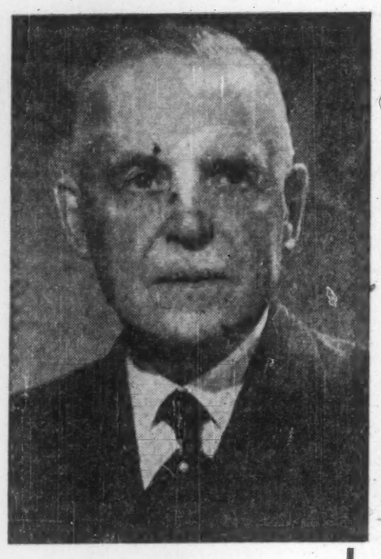
Canada's National Weekly of Business, Investment and Public Affairs



CANADA is a fabulous country. It is a place of unending plains and a place of jagged mountains, of bustling cities and quiet towns. It is a place of fertile green and of lonely, unceasing tundra. It is a land of hot sun and of snow. It is a rich country, a country of long trains, long rivers, longer highways. Its hinterlands are two oceans and half a continent. It is a nation of eager, open, honest, free people who have awakened to their heritage. It is a producing land — a place to buy, a place to sell, or a place to come and stay. It is a country of startling new presence and it is a country of the future.

In this report to the world The Financial Post talks about its today – and about what its future can mean to you.

The Prime Minister Writes:



I am pleased to have this opportunity to contribute a message of greetings to the readers in other parts of the world of the Financial Post's report on Canada. This report not only describes the vigorous activity of the Canadian people in the development of the rich natural resources with which their land is blessed but it also indicates to its foreign audience the opportunities for trade and investment which are available in our land.

The International Trade Fair which will be held for the eighth consecutive year in Canada has done much to encourage and restore multilateral trade upon which the prosperity of the free world depends. I am confident that businessmen and industrialists who attend this year's Fair will find their visit to be profitable as well as pleasant.

Louis S. St. Laurent

Prime Minister.

Ottawa,
1955

Atomic Energy's Role

Canada Will Build Uranium Power Plant

ATOMIC power—can it be harnessed for domestic use? Can it be used in industry? Is it safe? Is it cheap?

Gradually the scientists are finding the answers. Cautiously, feeling their way through public fear and ignorance, they are pointing the way to a new era in living, a new type of life. And Canada is in the forefront.

Early this year, W. J. Bennett, president of Atomic Energy of Canada Ltd., the government board which controls all matters relating to uranium and atomic energy, announced the government was ready to proceed, with private industry, in the construction of a plant which would produce electric power from atomic energy.

Said Mr. Bennett:

"Early in 1954 a power reactor feasibility study was started at Chalk River. The objective of this study was to determine an outline specification for a small power reactor with an electric output of somewhere between 5,000 and 10,000 kilowatts, and to prepare a rough estimate of its cost.

"As a result of the study, it has now been decided to design and construct a small or prototype power reactor. Proposals have been invited from a group of companies which have available the necessary design and development experience and shop capacity. The prime contractor will be responsible for designing and building the reactor and for mechanical performance. The contractor will also be expected to make some contribution to the cost of the project. The nuclear data will be supplied by Chalk River.

"Since it is unlikely that any single company can provide the full range of engineering resources needed for the job, it is expected that other companies with engineering experience in special fields will be employed by the prime contractor. In this way the participation of industry will be on the broadest possible scale.

"While final specifications have not been determined, it is probable that the reactor will be designed to produce steam sufficient to generate 20,000 kilowatts electric.

"It will use heavy water as a moderator and possibly also as a primary coolant. The heavy water will be pressurized and will raise steam from ordinary water in a heat exchanger. The nuclear fuel will be, in the main, natural uranium, but some separated plutonium may also be used as a fuel in order to reduce the physical size of the reactor. The uranium fuel will be in the form of metal rods or tubes clad in zirconium alloy.

"It is not expected that this reactor will produce power at competitive costs but it will produce the kind of design, operating and cost experience which will permit a scale-up to a large and economic power reactor. The detailed design of the reactor will begin in the second quarter of 1955, with a view to the completion of construction early in 1958."

The atomic power plant is intended to remove a shadow over the industrial scene—the shadow of a foreseeable limit to the amount of power our hydro schemes can produce.

The estimated total commercial potential of hydro-power for Canada is almost 50 million kilowatts. Over the entire country, only about 20% of this is used. And the amount used varies from area to area.

Ontario, for instance, has a utilization figure of 42%. Quebec's figure is 27% — because the main expansion of population and industry is in these two provinces. Ontario increases its use of hydro-power by 5.7% per annum, and Quebec by 4.3%. At that rate, Ontario will be up to the limit in about 15 years and Quebec in 30 years. Even the power expected from the St. Lawrence Seaway development (1.1 million hp) will serve to hold off the potential power famine in Ontario for only a few years.

The riches of natural gas and oil in the West have their limits. More electric power will be needed if there is to be full growth of secondary manufacturing industries allied to the byproducts of oil and gas.

As a country, Canada is now one of the largest producers of uranium, the raw material of atomic energy. Several major new deposits are being developed.

Add to this the fact that at Chalk River, Canada has one of the finest and most highly developed atomic energy projects in the world. Chalk River was begun in 1944, a pilot plant nuclear reactor that was later called the most efficient in the world. From it can come the fissionable material essential to atomic power plants.

In 1951, it was decided to build, at a cost of $30 millions, a new reactor, NRU, at the Chalk River establishment. This is not a power plant. It is a new research tool, an improved producer of plutonium, a new source of isotopes.

As a first step toward producing pure uranium in Canada, Eldorado Mining & Refining Ltd., the company responsible for production and procurement of uranium, was to install a $2.5 million processing plant at Port Hope.

The Financial Post

Canada's National Weekly of Business, Investment and Public Affairs
Overseas Edition

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THE FINANCIAL POST here presents the story of Canada's dynamic and unparalleled growth.

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The leaders in business, industry and government in some 100 countries who receive it will find in this feature report information of value to them now, and of lasting use as a reference to the mighty developments going on in this vast domain.

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Chemicals: Canada's Big New Field

Expansion of Petrochemicals Attracts Many Industries

IN THE record of industrial expansion in Canada since the end of World War II the chemical industry has been consistently outdistancing the field.

Since 1949, dollar volume of chemical output has expanded 50% as against an increase for industry generally of about 40%. This is all the more significant in the light of price trends since chemicals rose only a fraction of the amount of general industrial products. Dollar volume in 1953 reached a record high of $850 millions.

Part of the increase has arisen from expansion of the normal requirements of growing industry, but more of it has represented entirely new products, new processes, for Canada. Economists see this trend continuing, for the simple reason that chemicals are gradually becoming an integral part of all industry.

Highlight of the postwar chemical growth has been the emergence of Canada as a major world producer of petrochemicals. From a $50-million start in one wartime synthetic rubber plant, investment in this branch of the industry has risen to over $250 millions in some 24 completed plants. The products from these new plants include plastics, fertilizers, pharmaceuticals, anti-freeze, textiles and a broad range of industrial chemicals that go into consumer products.

This wave of new petrochemical plants will not only cut millions of dollars from Canada's annual import bill but will also exert an all-important effect on the direction of industrial expansion generally. It is almost certain that in time a broad range of secondary industry based on these chemical building blocks will be attracted to Canada; the trend is already under way.

Almost every one of the new plants is designed with an installed capacity to supply a major share of the domestic demands. Two have capacity far beyond domestic demands and require export outlets right from the start. When such plants must share the market at this stage with even one or two other producers—foreign or domestic — it can mean operating at a loss. All plants, however, have been built with an eye to the future and the way Canadian industry and population have been growing since the war it seems unlikely that the chemical leaders will have excess capacity for long.

In the meantime, of course, a greatly expanded U. S. chemical giant and an increasingly aggressive European chemical industry are exerting considerable competitive pressure on the domestic producer.

After Oil Discoveries

Growth of Canada's petrochemical industry would never have been possible without the postwar discovery and development of oil and gas in Western Canada and an unprecedented building boom in oil-refining capacity in this country. A doubling of refining capacity has made available a greatly expanded volume of byproduct gases to the young petrochemical industry.

Naturally the new plant developments are concentrated close to the largest refining centres—Montreal, Sarnia and Edmonton.

In line with this trend fastest growing segments of the Canadian chemical industry have been detergents, medicinals, synthetic plastics, auto chemicals and synthetic fibres. Fertilizers, insecticides, solvents, pigments, and dyes — although also expanding — have turned in a less impressive growth record.

Heavy chemicals still hold the prime production spot in Canada's chemical output ($125 millions in 1953, up almost 10% from the previous year). Paints and varnishes have been able to maintain second position with a plant production value of $113.6 millions in 1953. Medicinals and pharmaceuticals have been advancing rapidly, touching a new peak of $92.7 millions in 1953.

Since 1945 Canada has been importing about 20% of its chemical needs as compared with around 30% in the late 1920s. Purchases from U. S. accounted for 87% of all imports in 1953; purchases from U. K. were about 8% of the total. Heaviest import items are drugs and medicinals, paints and pigments, fertilizers, dyes.

Exports are also expanding moderately. These have about quadrupled since 1945 with fertilizers representing the major proportion, or some 33% of the total ($43 millions). About 60% of total exports went to the U. S., 6% to U. K. and 34% to other countries. Since early fall, however, Canada's exports to the U. K. have been expanding at a fairly rapid rate as that country's exchange situation improves.

Other large volume exports are synthetic rubber, synthetic resins and sodium compounds. Together they account for an additional 20% of export volume.

The new wave of petrochemical plants, however, is expected to exert an important change in Canada's export-import position. For instance new plants for first Canadian production of formaldehyde, pentaerythritol, phenol, isopropyl alcohol, synthetic latex and carbon black will considerably reduce Canada's dependence on imports.

A highlight of the past year has been the split into two separate entities of Canada's largest chemical empire — the former Canadian Industries Ltd. As a result of an action taken by the U. S. Dept. of Justice against former majority owners of C-I-L—Imperial Chemical Industries Ltd., and E. I. du Pont de Nemours & Co. —the assets of the company were split as nearly in half as possible. Two new companies were set up, Canadian Industries Ltd. 1954, in which Imperial Chemical Industries maintains majority ownership and Du Pont of Canada in which E. I. du Pont maintains majority ownership. Both the nylon weaving and spinning plants in Kingston, Ontario, and the nylon intermediates plant at Maitland, Ont., fall into the Du Pont of Canada fold. The new polyethylene plant in Edmonton and the new Terylene plant near Kingston became assets of the new C.I.L. '54.

Here are a few of the major construction jobs in the postwar chemical expansion program:

In the synthetic textile fields three major new plants have come on stream in the last two years:

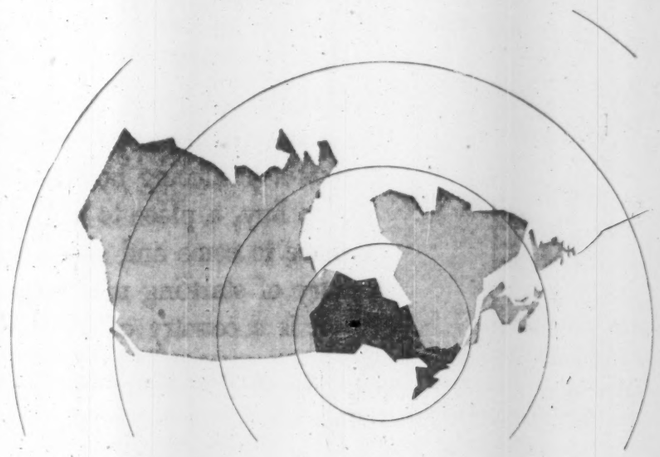
(1) A $20 million plant for first Canadian production of nylon intermediates came on stream a year ago at Maitland, Ont. This plant will make Canada self-sufficient in this field.

(2) A $20 million Terylene plant came into early pilot plant production this past summer at a site a few miles distance from Kingston, Ont. Main plant with capacity of some 11.5 million lb. a year is expected to come into operation early in the summer of 1955.

(3) Production of acetate fibre and filament yarns, along with a dozen or so industrial chemicals, got under way early in 1954 from a new $80 million petrochemical plant in Edmonton.

First Canadian production of polyethylene started early in 1954 from a $14 million plant at Edmonton, Alta. Based on petroleum gases available in the area, this plant will make Canada largely self-sufficient in this popular plastics material.

A new revolutionary chemical-metallurgical plant now operating in Alberta is using an ammonia-leaching process to recover refined nickel, copper and cobalt. As well as the metal some 70,000 tons of ammonium sulphate will be produced annually along with some additional ammonia. The West's first sulphuric acid project — just recently announced—by supplying acid to this new operation will enable a great increase in production of fertilizers.



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A Window on World Trade

CANADA'S place in world affairs, in world trade, is assuming more and more significance.

The fruits of its earth, developed enormously in the past decade, are rapidly establishing Canada as one of the world's primary producers of raw materials. The increasing size and versatility of its population, the great development of rich natural resources, have fostered the idea that Canada is a country that counts wherever trade is mentioned.

Thus, for the Government of Canada to establish the annual Canadian International Trade Fair in 1948 was a logical step.

The idea was bold in concept, as wide in scope as Canada's own horizons — and in practice it has been incredibly successful.

Successful in promotion of trade, in the establishment of trade connections that spanned thousands of miles and took no cognizance of differences in language, or custom or race. Successful beyond measure in the good will engendered between men of different views, policies and creeds—but with one object in common—trade and the fostering of trade.

Over the past seven years the importance of the Trade Fair has come home to more and more people, scattered more and more widely around the universe. It has become a "must" on the calendars of merchants and manufacturers from Tokyo to Teheran, from London, Eng., to London, Ont., from Chile to Chattanooga.

In 1954, businessmen from no fewer than 60 different countries met at the Exhibition Grounds in Toronto, Ontario. Exhibitors came from 24 countries to show their wares, to solicit trade, to make connections, or simply to show off their country or state or province.

Year by year, through the Fair, Canada is making a contribution to world trade and international relationships that cannot be measured in cash of whatever currency.

World Market Place

The Trade Fair—where the merchant-trader can buy anything from a kiddy's teddy-bear to a 22-ton mass of highly complex machinery; where you can lunch with a Japanese manufacturer of textiles, a German maker of accounting machines, a Portuguese wine merchant—and see at the next table a British trade delegate eating with an Indonesian and an Italian maker of machine tools.

The Trade Fair — where a man can come in at the last minute (the day before the Fair opens) and sell 5,000 bicycles in three days—it happened last year. . . .

The Trade Fair—a fabulous collection of the world's produce, catalogued for your convenience, tended by experts.

The Trade Fair doors do not open officially until May 30 (closing date June 10), but already the 1955 Fair is beginning to take shape.

Space bookings amount to over 116,000 sq. ft., slightly ahead of the 115,200 sq. ft. booked at the same time the previous year. The number of countries so far seeking representation is also ahead of the previous year—17 to 12.

Trade Fair officials expect 25 countries to be exhibiting—one more than last year. A newcomer this year is Czechoslovakia — in the Fair for the first time since 1950. She will show aircraft, gliders, aircraft engines, machine tools, textiles and a host of other items in 27,000 sq. ft. of space. Another is Argentina, with a prestige display of 6,000 sq. ft. showing the major products of the country.

Canada leads with bookings amounting to 63,000 sq. ft. Czechoslovakia runs second for the time being, but U. K. bookings are expected to oust her from that position. Germany and U. S. A. should be far up the list of space renters.

India's bookings are already ahead of last year (over 4,000 sq. ft. to date; 1954 total, 3,960). Japan's 1955 bookings at 4,000 sq. ft. is almost double the space she occupied a year ago.

Cuba is making a bold bid this year in foods.

Drawing More Business

This year there will be 23 different sections to carry the products, one more than in 1954. The new category is the Welding and Metals Section, and to celebrate its inauguration the Canadian Welding Society is holding its first annual convention in Toronto at the same time as the Fair.

Last year's new section was the aircraft exhibit—and, the success of that can be judged by present bookings. At 9,360 sq. ft. they are already far ahead of last year. Again coinciding with the Fair, the Aviation Writers' Association will visit Toronto on June 4.

Officials would like to see a fast service from Toronto's airport at Malton on the outskirts of the city to the Fair this year. A helicopter run is suggested, and everything possible is being done to make it a reality. The hover-planes would fly from Malton directly to the Exhibition Grounds, carrying cargo, mail and V.I.P's.

Increasingly important part of the Fair is the efforts being made to increase attendance of purely business visitors—people interested in buying and selling, placing orders and making contacts, fixing agencies and determining plant sites.

Strenuous efforts are in process to promote this type of attendance by advertising publicity and, for the first time, personalized direct-mail campaigns to South American countries.

Countries chosen for the 1955 campaign — Venezuela and Colombia — are the two most likely to have dollars to spend in Canada. Selected groups of businessmen in both have been sent special literature and letters telling of the advantages of a visit to the Trade Fair.

Business attendance at the Trade Fair last year was over 25,000—based on the number of single registrations recorded by businessmen, not the number of times the turnstile clicked.

More Consumer Goods

This year the former Visitors and Exhibitors Committee, formed of trade and business association members who work unpaid to boost attendance, has been split into the two distinct categories. Each now works independently — and with greater success, say the officials of the Fair.

It's still too early to say if the 1955 Fair is going to be bigger. But one thing officials are sure of—this year's CITF will be better balanced—more emphasis on consumer goods, a little less on capital equipment.

Electrical equipment, for instance, will probably be in greater evidence this year than ever before. Already some of the largest manufacturers in the field have submitted applications. Many more are expected.

As in previous years the machine tool section is by far the largest trade category so far. Others that stand out space-wise are plant equipment, office equipment, materials handling, construction and power equipment. The "prestige" section, where people come simply to show nature and potential, beauty and attractions of their particular country, town or province grows bigger every year.

What Do You Get?

What sort of benefit can you get from visiting Canada's Trade Fair? Here are typical examples:

—Hand-made shotgun exhibit from Belgium — "It's a nonstop attraction. We'll be back next year with triple the space."

—A Swedish furniture manufacturer: new customers in Mexico.

—An English company: 30 new wholesale accounts in Canada.

—Agents of a U. S. firm: a deal for stampings worth $190,000.

—An exhibitor from Pakistan: 500 tennis rackets sold the first day. It paid his costs and more.

—Machine tool attachment maker: his company with a backlog of 300 to 500 enquiries in a few days.

—An exhibitor of molding compounds: "Hundreds of enquiries (in the first few days) and the Fair lasts two weeks!"

—A Canadian municipality: It attracted 15 branch plants a year.

The Trade and Commerce Minister Writes

1954 has brought a number of welcome developments along the path towards an expanding volume of multilateral trade. The past year has been marked by the growing economic strength of Western Europe with its national economies reaching new record levels of industrial production. The vigorous upsurge in national output has been accompanied by wider opportunities in this area for the international exchange of goods, fostered by measures which have furthered the gradual relaxation of trade barriers.

The Canadian economy remained strong during the past year. This strength was apparent in spite of our poorest grain crop in many years, and despite a pause in the rapid economic growth which has been characteristic of the North American continent in the post-war period.

By RT. HON. C. D. HOWE
Minister of Trade and Commerce

The continuing high level of economic activity in Canada was reflected in a large volume of international trade in most major sectors. Good trading opportunities continued to exist in the Canadian market.

Foreign capital has come to Canada in significant amounts largely to participate in the resources and industrial development of our country. In Canada, foreign businessmen enjoy the same privileges and responsibilities as Canadian businessmen.

This is all part of Canada's endeavor to indicate in a practical way how international goodwill can be furthered in the interest of participating nations.

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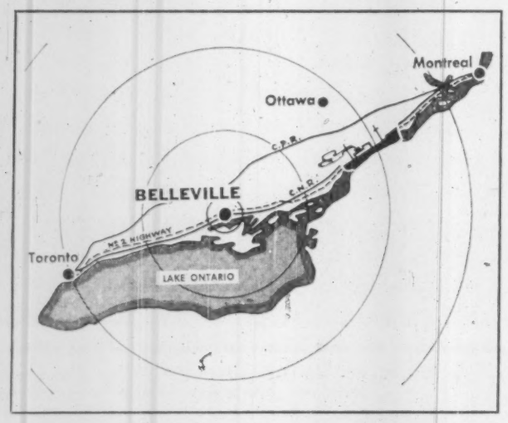

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Dear Mr. Industrialist:

We are convinced that the great base metal discoveries in New Brunswick will lead directly to a major upswing into the economy of the area in the next short while.

Already the impact of these finds is influencing many phases of our business life as large amounts of capital are being spent to develop these minerals. In the planning stage are metallurgical and chemical industries.

Fortunately for New Brunswick this comes at a time when a proposed Hydro Development on the St. John River will make large blocks of low cost electric power available for these and other industries that will be locating within the Province.

Why not participate in New Brunswick's new era of progress? We would be happy to furnish specific information if you would write concerning your needs. Should you so desire, a confidential plant location study can be prepared for your particular requirements.

Yours very truly,

J. E. Richard
MINISTER

Inflow of Capital Continues to Rise

FOR MOST of the past year, Canada has been buying more goods from other countries than it has been selling to them.

Normally this would tend to depress the value of the Canadian dollar in terms of other countries' currencies. Instead, after a dip in the early part of 1954, Canada's dollar rose again and early in the year was selling at a premium of about 3½% over the U. S. dollar.

The main reason: a continued heavy inflow of foreign money for investment in Canadian industry and resources.

This capital inflow was of two main types: direct investment (in such things as plant and equipment for branch plants) and investment in Canadian securities.

The first type — direct investment — ran behind the 1953 level. Although final figures are not yet available, it looks as though the total last year will be about 25% less than the estimated $398 millions of the previous year. This does not include about $500 millions of direct investment which has been made in each of the past three or four years through the use of retained earnings by foreign-owned enterprises.

The second type — investment in securities — resulted in a net inflow of $160 millions in the first nine months of 1954, or an annual rate of more than $200 millions. This includes proceeds from sales of new securities, less amounts required to retire existing issues. It also includes transactions in foreign securities, although by far the greatest inflow was from sales of Canadian securities.

Canadians over the years have become accustomed to sizeable investment in their country by investors from other countries. But the flow in the past few years has been bigger than ever before. The amazing point has been the even greater rate of Canadian investment.

In the early days of this country, most of the money for investment came from abroad, particularly Great Britain. Now, Canadians are supplying by far the greatest proportion of their capital needs themselves.

There is so much to be done, however, that there is still lots of scope for the increasing amount of money looking for profitable avenues of investment.

The U. S. Investment

The United States is by far the biggest present source of capital. But the United Kingdom and many European countries have been shipping over increasing amounts of money, as can be seen in the accompanying table.

The largest part of U. S. investment in Canada is in the form of direct investment. Of the estimated $8,600-million book value of U. S. investment here, $5,000 millions is direct investment, $1,855 millions in government and municipal bonds, $1,500 millions in other portfolio investments and $245 millions in miscellaneous assets.

U. S. residents have stepped up their proportionate interest in Canadian industries and merchandising firms, while the total nonresident share has declined.

Of the $890-million foreign investment in the Canadian petroleum industry at the end of 1952, $868 millions was U. S. money. The total investment of nonresidents in this industry in 1945 was only $126 millions.

Mining and oil development remains a major attraction for U. S. capital. About 60% of capital inflow for direct investment from the U. S. in 1954 was for the petroleum industry, and another 30% was for mining, according to figures for the first nine months.

A new feature of U. S. portfolio investment in Canada this year was the formation of a number of investment companies — due in part at least to certain tax advantages for U. S. shareholders — to buy and hold Canadian securities, mainly common stocks. More than $100 millions was raised in the U. S. for this purpose.

Since the first of these investment companies started to invest its money in June, 1954, the average net inflow of capital from the U. S. through sale of Canadian stocks to U. S. residents has increased to more than $8 millions a month compared with a total net inflow for this purpose in all of 1953 of only $5.5 millions.

While U. S. investment overshadows all other nonresident ownersip in Canada, there has been a significant rise in the volume of capital coming from other countries, particularly the United Kingdom.

During World War II and for some time afterward, British investment here was on the decline. Since 1949, however, it has been rising once more, with more than $400 millions being invested up to the end of 1953 and important additions again last year.

About half the increase in British investment in the period 1949-52 was in the form of direct investment — a significant change from earlier patterns. At the end of the war, for instance, only 20% of U. K. holdings were classified as direct investment. Government and corporate bonds and stocks were by far the largest part of the total, and still account for more than half.

The U. K. has increased its interest in Canadian manufacturing as a result, and in merchandising, too, since World War II. Its interest in Canadian railways has dropped considerably (U. S. residents have increased their proportionate interest iin Canadian Pacific at the expense of the British, for instance, although U. K. residents still have the largest interest of any in that enterprise), and so has its interest in Canadian financial institutions.

U. K. loans have been a big source of funds for the recent expansion carried out by Aluminum Co. of Canada. U. K. money financed the big $20-million Terylene textile fibre plant now owned by Canadian Industries (1954) Ltd. (controlled by Imperial Chemical Industries).

A. V. Roe (Canada) Ltd. has involved about $16 millions of British capital, and the big aircraft concern has just recently made plans to carry out further expansion. Backer in this case is the Hawker Siddeley Group. Other British aircraft industry suppliers which have come to Canada since World War II include Rolls-Royce, Britstol Aeroplane, Lucas Rotax, Dowty Equipment, Photographic Survey, Flight Equipment and Williamson Co.

English Electric, which earlier had acquired control of John Inglis Co. and English Electric of Canada, bought control of Canadian Marconi Co. in 1953. British Insulated Callender's Cables, British Paints, General Electric of England and many others have acquired interests in Canadian plants.

Another feature in the last couple of years has been the number of investment companies which have been formed, many of them with the backing of U. K. interests, to participate in Canadian growth. Some are investing in Canadian securities, others looking for equity investment in smaller growth situations, sometimes including management and technical aid in the deal.

Real estate, mining and oil, construction, sales financing are among other avenues of investment being used by British interests.

Recent figures on the size of the U. K. investment flow are spotty. One indication of the continued up trend can be found in the increase in trading in outstanding securities.

From Other Countries

Greater interest in Canadian securities is evident from countries other than the U. S. and U. K. too. Net purchases by residents of these countries were $14.6 millions in 1952, $20.4 millions in 1953 and $35.6 millions in the first ten months of 1954. A large proportion of this money went into bonds and debentures, whereas the bulk of the U. K. money was for stocks.

The figures on investment by countries other than the U. S. and U. K. indicate an increase in all categories of investment, with the biggest individual amount going into financial institutions. Switzerland has been one of the main sources of funds coming to Canada, and although the origin of the money is not revealed, much of this reflects general European interest.

U.S. is the biggest investor

All figures millions of dollars

Country	1945	1950	1951	1952	*1953
U. K.	1,750	1,748	1,776	1,886	2,000
U. S.	4,990	6,548	7,259	7,976	8,600
Other	352	365	436	490	550
Total	7,092	8,661	9,471	10,352	11,150

*Approximate only.

But other countries are investing more

	1939-46	1947-48	1949-50	1951-52
U. K.	—808	—60	+140	+138
U. S.	+1,006	+409	+982	+1,428
Other	+67	—21	+33	+125
Total	+265	+328	+1,155	+1,691

Emphasis is on manufacturing and resources

	All	U. S.	U. K.	Other
Government Securities	2,025	1,826	142	57
Railways	1,429	644	699	86
Other public utilities	636	547	55	34
Manufacturing	3,529	2,912	552	65
Mining and Smelting	1,072	972	61	39
Merchandising	436	307	111	18
Financial institutions	638	395	140	103
Other enterprises	132	116	12	4
Miscellaneous assets	455	257	114	84
	10,352	7,976	1,886	490

(Figures for 1952)

Here are individual trends since 1945

	All	U. S.	U. K.	Other
Government Securities	+363	+376	—15	+2
Railways	—170	—76	—107	+13
Other public utilities	+142	+172	—35	+5
Manufacturing	+1,700	+1,430	+251	+19
Mining & Smelting	+669	+650	—1	+20
Merchandising	+210	+143	+54	+13
Financial Institutions	+113	+110	—46	+49
Other Enterprises	+62	+54	+6	+2
Miscellaneous Assets	+171	+127	+29	+15
Total investment	+3,260	+2,986	+136	+138

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Corporations considering the advantages of entering the Canadian market and of raising capital in Canada are invited to avail themselves of the services of our organization. With offices in Canada from coast to coast, as well as London, England, New York and Chicago, and fifty years' experience in the underwriting and distribution of Canadian securities, we are well equipped to assist corporations looking to Canada for expansion.

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Canada: New Home for Many People

MORE than a million immigrants have found new homes in Canada since World War II. This year, about 160,000 more are expected.

A look at the crowded Canadian immigration offices around the world indicates that Canada is today one of the most popular "second homes" for the emigrating family. But, while she encourages many potential newcomers to make the trip, her over-all immigration policy is generally cautious. She realizes that the intake of new citizens must correspond with the absorptive capacity of her economy. At the same time, most Canadians believe their expanding country needs more population through immigration.

For example, because the severe Canadian winter slows down or stops many outdoor occupations, workers in many categories are not allowed to arrive in Canada between the end of October and the end of March. Another essential rule is that Canadian immigration authorities must select immigrant workers with the training and skill suitable for job vacancies in Canada. There is also a political necessity in Canada's immigration program of balancing between various racial and national groups allowed into the country.

Three groups are almost always assured of quick entry, however: relatives who will be supported by Canadians or by previous immigrants until they get work; persons with specific jobs waiting for them; those with specific skills for which there is an unfilled demand in Canada.

The Canadian Government realizes that the country's expansion will be delayed and hindered if immigration is checked too much, too often. A considerable proportion of those coming to Canada have broad skills and even some capital. Far from taking jobs from Canadians, they have provided new employment.

While no specific predictions have yet been made for 1955, it is expected that occupations for which immigrants will be needed during the year will include skilled workers in the construction industry such as carpenters, plasterers and electricians; farmers with actual agricultural experience; and industrial workers with specialized skills. Domestics and nurses will certainly find ample employment.

Farm Families Plan

One new provision now being studied would bring out more farm families, instead of single men. One of the problems in the past has been that farm workers have not remained in rural areas, moving into the more industrialized sections of Canada as soon as their work contracts are completed.

More than 50% of immigrants since the war have made their homes in Ontario. Some 20% have settled in Quebec and about 10% on the West Coast, in British Columbia. The Prairie Provinces — Alberta, Saskatchewan and Manitoba — together have absorbed about 15%, with the balance making their homes in the East Coast Maritime Provinces.

New arrivals are aided in finding employment through settlement officers of the Department of Citizenship & Immigration, the Department of Labor and through the National Employment Service. Many nongovernmental organizations and agencies, particularly ethnic and religious groups, are also helpful.

To become eligible for Canadian unemployment insurance benefits, an immigrant must make contributions covering 180 days during the previous two years, of which 65 must be in the quarter before his employment ended. There is some relief given by provincial governments to immigrants who have a serious illness or accident which requires hospitalization and medical care for which they are unable to pay.

Almost every Canadian town's board of education now has some program for teaching new Canadians the English language.

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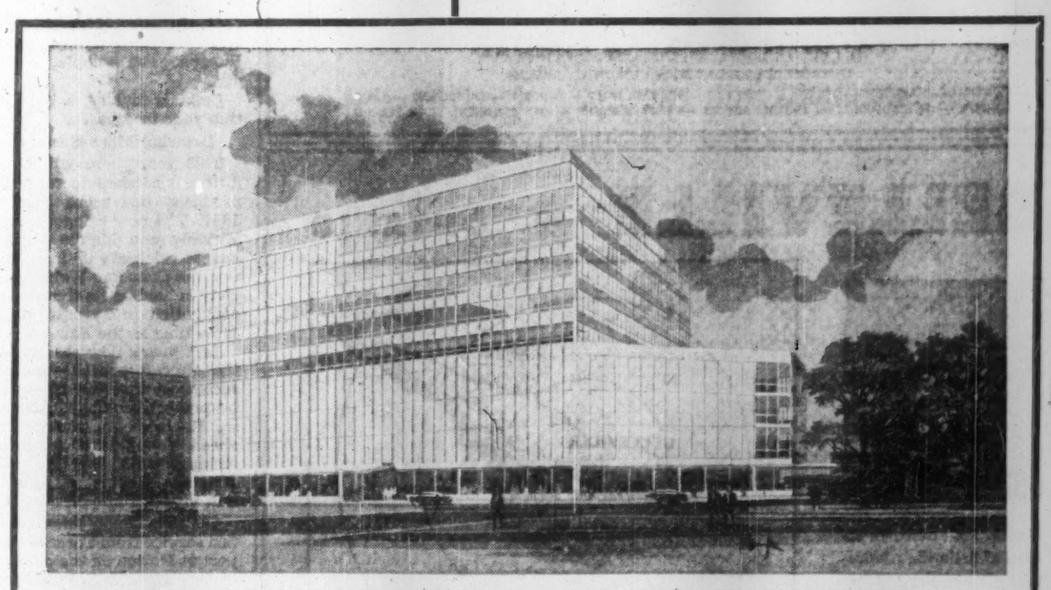

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In the beginning, four full floors will be earmarked as permanent exhibit floors for manufacturers, factory sales representatives, manufacturers' agents and foreign countries to exhibit their wares on a year-round basis. Great corridors, or miniature shopping streets, will be on these exhibit floors, with modern shops on either side displaying both Canadian and foreign merchandise.

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Hon. R. D. Turner, Q.C., Minister — R. E. Grose, Deputy Minister

The North: Canada's Exciting "New" Hinterland

Eyes Focusing More and More on This Vast Resources Reservoir

A MIGHTY land larger than all Europe outside the Iron Curtain; as far north to south as from the Orkneys to Gibraltar; east to west the distance from London to the eastern slopes of the Russian Urals.

That is the Canadian North.

It has fewer people than many a London suburb. Beneath its often forbidding surface lie huge, unestimated quantities of gold, uranium, oil, coal, iron and other valuable minerals. It has vast stretches of tillable — and untilled—land. It is an untapped storehouse of waterpower.

It has some of the world's largest lakes and longest rivers, a number of the loftiest peaks in North America.

It includes the Yukon, famous for the 1898-1900 gold rush; the sprawling, thinly populated Northwest Territories, where many islands dot the seas between the mainland area and the North Pole. Another million square miles and more takes in the northern portions of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Newfoundland.

Transportation is largely by air. There is one major road —the strategic highway which links Canadian and U. S. road systems with Alaska. A scattered few rail lines penetrate the wilderness of rock, lake and forest.

But today, in many parts of the more than 2.5 million square miles of the North, power and mining development is changing the face of the land, the future of its people, the future of Canada.

A tremendous power and metallurgical project is envisaged where Northwestern British Columbia borders the Yukon. New uranium discoveries in Northern Saskatchewan and the Northwest Territories have turned almost untouched lands into key areas upon which eyes of an atom-minded world are focused.

There's a big iron ore development on northern borders of Quebec and Labrador. New finds of base metals in much of the great Canadian Shield country excite the interest of the mining world.

A Message On Northern Affairs

By HON. JEAN LESAGE
Minister of Northern Affairs and National Resources

THIS year, as never before, Canadians are turning their attention to their great northlands.

It is not surprising that they should do so, for one third of our country lies in the North and it is one third of our country which has immense wealth both in natural and human resources. We have now reached the stage of maturity as a nation to give us the will, the strength, and the confidence to develop the north.

Much of our northern wealth is as yet undiscovered, but already we have sufficient information about proven and potential resources to attract the keen interest of Canadian industry. The Government is willing and anxious to help industrial development in the North by seeking to create the best atmosphere for it, and by direct contributions, especially in transportation facilities. Nevertheless the pace at which our northern wealth is tapped depends upon private enterprise.

I have every confidence that Canadian business will rise to this challenge as it has invariably risen in the past. I am also confident that in the development of the North rewards—rich rewards—will not be lacking.

Port Churchill Grows

And the seaport of the North—Manitoba's Port Churchill in Hudson Bay—gains steadily in importance. Churchill is in the heart of the continent yet has direct access to Atlantic shipping routes. It is primarily a wheat-exporting and military centre. As the latter, it is a valuable base for training solders and airmen in northern fighting techniques, for testing equipment in winter temperatures ranging 50 and 60 degrees below zero.

In the past, the North has been a land of fur traders and gold-seekers. These trail-blazers are still there but no longer the dominant groups.

Fur, of course, first brought men to this vast country. Finding entry through Hudson Bay, fur traders began their arduous trips of exploration and exploitation in the 17th century.

For centuries, fur companies commercially had the North to themselves — but even they didn't travel the barren lands of the extreme north and the northeastern portion of Northwest Territories.

It wasn't until the now-populated southern fringe of Canada became settled that Canadian eyes turned north. And where the journeys of explorers like Mackenzie, Kelsey, Hearne and Franklin failed to excite active interest, gold succeeded. Not only Canada, but the whole world, took note of the Canadian North when gold was found in the Yukon.

Ever since, people have been intrigued by the mineral potential of the North. Gold and uranium are now being produced there, oil in negligible quantities. There are large and rich deposits of coal (some have been burning on the surface for centuries), base metals and oil. The problem is to get them to markets at an economic price. As Quebec-Labrador iron ore development has shown, the greatest need is for transportation facilities.

A multi-million dollar railway was constructed to get Quebec-Labrador iron ore to the lower St. Lawrence River, where it can be transported to steel mills. But such a costly enterprise wasn't economic until much of the better-quality ore in more accessible North American fields had been exhausted.

It appears the pattern of development for northern oil, and base metals, will be the same. The coal, because other and cheaper sources of energy are now being developed, may never be exploited.

River, Lake Settlements

With few exceptions, larger settlements of the North have these things in common:

—They are wholly dependent on furs or mining, or both, for existence.

—They are on rivers (recalling when fur traders traveled by canoe) or on lakes (mirroring the modern travel method, pontoon-equipped aircraft).

—They are policed by the Royal Canadian Mounted Police. The North has little of the rowdiness and crime usually associated with the frontier.

Around 30,000 people live in the Northwest Territories and the Yukon. The population of the northern areas of the provinces is considerably larger. But together, all northern residents make up less than 1% of Canadians. They are traders, miners, prospectors, policemen, air line employees, Federal Government administrators and natives.

As white men penetrated the North, wild animals on which the Eskimos and Indians depended for food became scarcer. There were times when hunger and disease seriously affected native settlements.

Now, the Federal Government is taking more vigorous action to help northern natives. It and the churches are key agencies for their physical and spiritual welfare.

Residents of the North live in a land which has almost overnight become an area of strategic significance. Uranium is one reason for this transformation.

But there is another: over Northern Canada lie the shortest and most logical air routes from Europe to the populated areas of North America.

Already one airline — Scandinavian Air Services — is flying a scheduled route across these polar regions. Others will follow.

Militarily, this means that a war between the West and the Communist bloc could see bombers flying back and forth across the Canadian North. That is why Canada, with the substantial co-operation of the U. S., is working on a series of warning lines there. These would allow advance notice of unfriendly aircraft crossing the North.

Vegetables are grown in Mackenzie River valley and do well because of long sunny days in the short summer. But they aren't grown as cash crops. It isn't economic to transport them to distant markets. Even grain can be grown in the river valley but lack of markets again makes the possibility meaningless.

In part of the North's southern fringe, however, some of the world's finest-quality wheat is grown. This is in the fertile Peace River valley on the north-central border of British Columbia and Alberta. The district is close enough to Canada's road and rail networks to have commercial access to southern markets.

Today Canada has the feeling its North is just in early stages of fast-blossoming development. Certainly the potential is there. Canadians have been slow to realize it fully. But now Canadians are looking into the endless northlands with real meaning.

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Uranium Sparks Mining Front

Canada Among Free World's Biggest Suppliers

MAJOR expansion of uranium production is being quietly accomplished in Canada, though production figures for this atom-age metal are shrouded in official secrecy.

The trend was clearly indicated by Paul Martin, Canada's minister of national health and welfare, in a speech late last year. Said Mr. Martin:

"At present, the production of uranium in Canada is three times what it was at the end of the Second World War and we expect that by 1956 it will be eight times as great."

This would seem to indicate that uranium production is expected to almost triple in 1955 alone. To date, entire output of uranium is being derived from three mines: the Great Bear mine of Crown-owned Eldorado Mining & Refining; the new Ace mine of Eldorado in the Beaverlodge camp of Northern Saskatchewan; and the Rix Athabasca mine at Beaverlodge which ships its ore to the Ace mill.

Eldorado's Ace mine was placed in production in May, 1953, and is believed to have an output of at least twice that of the original Great Bear mine.

But these three producers represent only a nice start on the production program now in hand.

Two substantial new producers are scheduled to reach production in September, 1955, with a major expansion of uranium output.

Gunnar Mines, located on Crackingstone Point in the Beaverlodge area, is now completing a 1,250-ton mill to treat a large tonnage of exceptionally good grade uranium ore. An early stepup in productive capacity to perhaps as much as 1,750 tons a day is in prospect for this mine.

The second new uranium mine will be in the Blind River area (Algoma uranium camp) of Northern Ontario immediately north of Lake Huron. Here Pronto Uranium Mines is busily engaged in constructing a mill of 1,000 tons daily capacity to be expanded later to 1,500 tons. Ore grade in the Algoma uranium area is much lower, as a rule, than at Beaverlodge but since it is an entirely new camp in a relatively accessible area of Northern Ontario, it may eventually rival Beaverlodge in total production.

Algom Uranium Mines is now engaged in designing two mills of 2,500 to 3,000 tons daily capacity each for its Quirke Lake and Nordic Lake deposits, which have combined reserves of about 15 million tons averaging better than 0.1% U_3O_8. Expenditure of over $50 millions is expected on this production project.

Very active exploration programs are in progress in the Algoma, Beaverlodge and Bancroft (Ontario) uranium areas and considerable number of other promising properties are already beginning to emerge.

At Beaverlodge, Lorado Uranium has been enjoying success in underground work and a mine capable of producing 500 tons of good grade ore a day appears a distinct possibility.

Gulch Mines has indicated a mine in this area, will put down a shaft shortly. So with Lak Cinch Uranium Mines.

In the Algoma area, Consolidated Denison Mines has outlined promising uranium values in widely spaced holes and another very large operation could quite easily develop. Others in the same area, including Roche Long Lac, have also enjoyed success in drilling.

In the Bancroft area of Eastern Ontario, Faraday Uranium, Centre Lake Uranium, Croft and Dyno have shown pegmatite dyke uranium occurrences. Underground development at the first three properties mentioned has revealed a considerable tonnage of medium- to low-grade uranium mineralization. So far, however, no production plans have been completed for any of these new operations. Rare Earth in the same area plans to sink a shaft.

In the new Marian River uranium camp in the Northwest Territories, Rayrock Mines has indicated a high-grade uranium ore shoot and plans to sink a shaft.

Most favorable places in the world to seek uranium are usually regarded now as the edges of "shields." Thus Canada, with its vast pre-Cambrian shield, appears likely to continue one of the major factors in world uranium production.

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The steady growth and expansion of the Canadian economy warrants your attention. Investment opportunities in Canadian industries and natural resources should be studied. We invite your inquiries on Canadian securities for growth, security and income possibilities.

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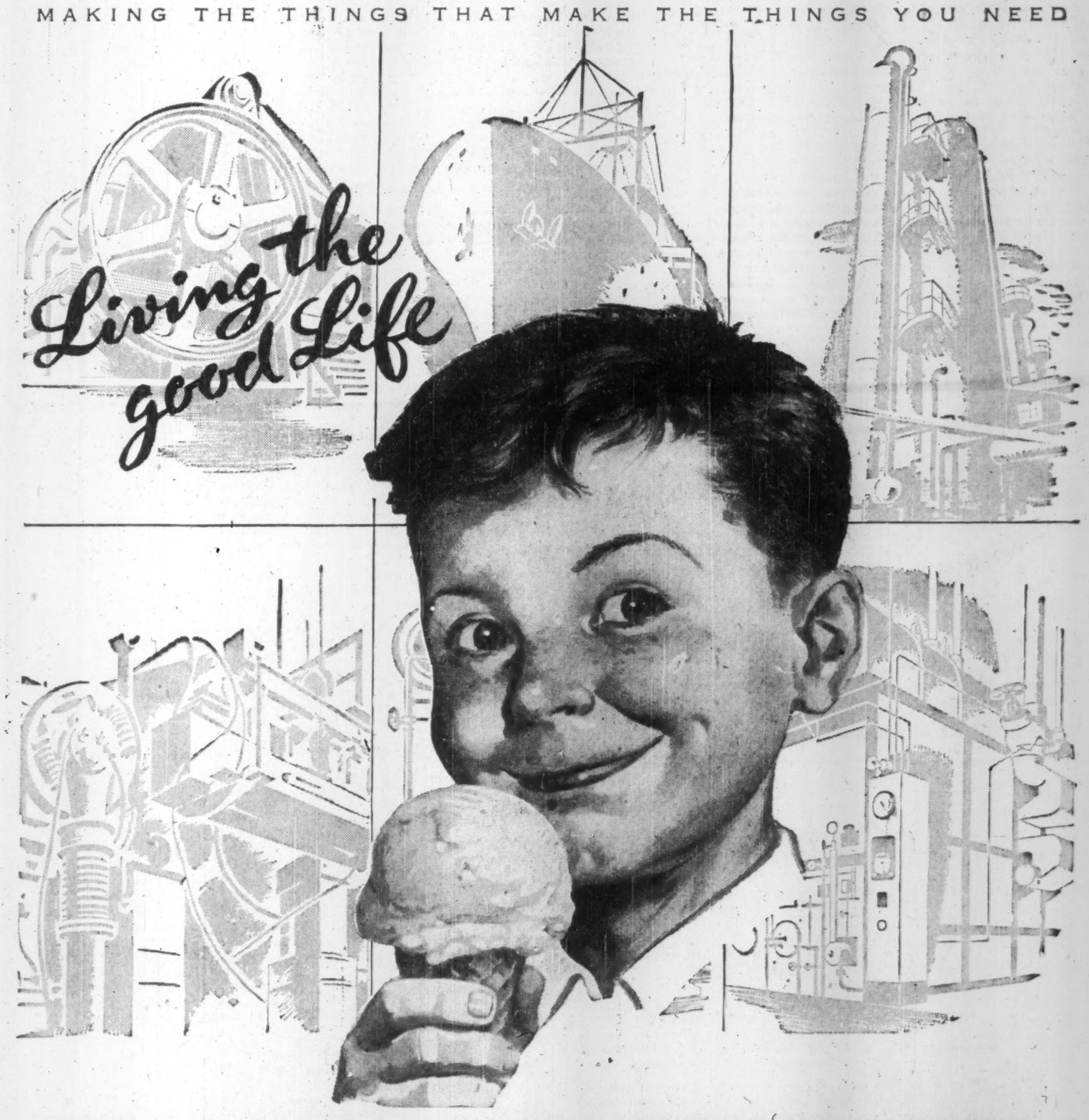

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FINANCE

Banks Offer Many Aids to Business

THE past 12 months have been one of the biggest periods of change in the long history of Canadian banking. Here are the chief changes that the year has brought:

—Two of Canada's oldest banks merged into one.

—The Bank Act (the law which governs the operation of Canadian banks) has been revised for the first time in 10 years.

—A day-to-day loan market, similar to the short-term money markets of London and New York, has been created in Canada.

—A new issue of currency, with the first change in design since 1936, has been made.

Another noteworthy change took place late in 1954 when Graham Towers resigned as governor of the Bank of Canada. Towers had been the head of Canada's central bank since it was founded nearly 20 years ago. He has been succeeded as governor of the Bank of Canada by 44-year-old James E. Coyne, senior deputy governor for many years.

The Bank of Canada is the government - owned central bank which gives the government expert and impartial financial advice, and implements government fiscal policy.

Another government bank, the Industrial Development Bank, is a subsidiary of the Bank of Canada. It provides credit for industrial purposes outside the normal field of banking. At Nov. 30, 1954, IDB had loans, investments and guarantees outstanding in the amount of $42,547,253.

The Chartered Banks

The backbone of Canada's banking system, however, consists of the 10 privately owned "chartered" banks. These banks are authorized to operate by a charter issued by the Federal Government and which must be renewed every 10 years.

Canada's banks range in age from the Bank of Montreal, established in 1817, to the Toronto-Dominion Bank, established in 1955. The Toronto-Dominion was formed through the amalgamation of the Bank of Toronto, incorporated exactly 100 years ago, and the Dominion Bank, founded in 1871.

These two banks were, respectively, the sixth and eighth largest of Canada's 11 banks. The new bank, Toronto-Dominion, is now the fourth largest of the 10 banks.

Canadian banks operate on the branch system. Although the country has only 10 banks, it has some 4,100 banking branches divided among the 10 provinces, the Yukon and Northwest Territories.

This means that there is one banking office for every 3,800 Canadians; in the U. S., by comparison, there is one for each 8,200 people.

Canada's banking system is still growing physically, with new branches being opened frequently. But the biggest part of the banks' growth in the immediate future will come not from the use of more branches but from the greater use of existing assets.

Bank Act Changes

That is the result of the 1954 revision of the Bank Act. One of the most important changes made in the Act was the setting of the banks' legal minimum reserves of cash at 8% of the deposits they held; previously, the banks had held at least 10%. Effect of the reduction was to enable the banks to put extra millions of dollars to work in loans.

At the same time, the change in the Bank Act gave the banks more investment outlets for their money. For the first time the banks are now allowed to make loans on residential mortgages (for many years a major field for U. S. bank lending), and to make loans on the security of oil and various interests in oil developments, on the security of farmers' potato crops, and on household property.

These Are General Managers of Canada's Banks

J. H. G. F. VALE, *Barclay's Bank (Canada)*; N. J. McKINNON, *Canadian Bank of Commerce*; MATTEUS VISSER, *Mercantile Bank of Canada*; J. S. PROCTOR, *Imperial Bank of Canada*; ULRIC ROBERGE, *National Canadian Bank*

A. C. JENSEN, *Bank of Montreal*; J. U. BOYER, *Provincial Bank of Canada*; T. H. ATKINSON, *Royal Bank of Canada*; WILLIAM KERR, *Toronto-Dominion Bank*; F. W. NICKS, *Bank of Nova Scotia*

These changes will serve to heighten the existing differences between Canadian and U. S. banking. Banks in Canada have a higher ratio of earning assets to total assets than U. S. banks, a higher proportion of loans to investments, a much higher ratio of commercial and industrial loans relative to total loans. Their balance sheets also show a lower ratio of capital and reserves to total liabilities.

Cheque clearings among Canadian banks are carried out at regional clearing houses in Montreal, Ottawa, Toronto, Winnipeg and Vancouver; in clearing houses established by the Canadian Bankers' Association in 47 other Canadian cities; and by local clearing arrangements in almost all towns with two or more bank branches.

Canada has a steadily growing short-term money market. Treasury bills were first sold by the Federal Government to chartered banks about 20 years ago but up until about 1952 there was nothing resembling the money markets of London and New York.

In 1953 the issue of Treasury bills was put on a weekly rather than a fortnightly basis, and nine-month bills were offered in addition to the usual three-month bills. Consequently, bills maturing in any week within the next nine months are now available.

Last June, a "day-to-day" loan market was established. Lenders are Canada's 10 chartered banks; borrowers are 13 "approved" investment dealers—the approval consisting of access to loans from the Bank of Canada (the "lender of last resort") at the rediscount, or penalty, rate of 2%. This market provides a profitable outlet for temporarily idle bank funds, and yet the loans remain highly liquid and are available for recall on a day-to-day basis.

The Canadian short-term money market is still far short of the stature of such markets in the world's financial capitals. But a start has been made, and the foundation laid for continuing growth.

Among Canadian banks, the smallest and newest (apart from Toronto-Dominion Bank, formed through the merger of two old banks) is the Mercantile Bank of Canada, chartered in 1953. Controlled by Nationale Handelsbank, N.V., of Amsterdam, it has assets of more than $7.5 millions.

Mercantile has only two offices—its head office in Montreal, and a branch in Vancouver. It aims at the patronage of new Canadians and continental business firms, and also specializes in service to Canadian firms with trading interests in the Far East.

Most other Canadian banks, too, have special departments to serve businessmen abroad who have dealings with Canada, to serve Canadians who export their goods to other countries, and to serve businessmen from abroad planning to establish branches in Canada.

For the foreign businessman exporting to Canada, Canadian banks will help to locate suitable markets, report on the status of the Canadian customers, help with documents such as letters of credit, etc., and handle all details of payment. For the Canadian exporter, the banks furnish much the same services in reverse.

If a businessman abroad is thinking of extending his operations to Canada, Canadian banks offer these services:

—They will help him to evaluate the suitability of the various parts of the country;

—They will put him in touch with professional help such as lawyers, chartered accountants, etc.;

—They will establish liaison with the businessman's home bank abroad to smooth out the financial problems involved.

Canada's banks are also ready to help the individual immigrant to Canada in the transfer of money to and from his homeland. If the immigrant doesn't speak English, the bank can help by supplying the necessary documents in his native language.

Besides doing business through their own branches abroad (there are 119 of them), Canadian banks do business in practically every country of the world through correspondents and agents.

Asbestos for Another Century

A GREAT Canadian industry with an assured future is asbestos mining. It produces some 70% of the world's asbestos fibres, and known ore reserves are sufficient to assure production for at least another 100 years.

Over 5,000 asbestos miners turn out $86 millions of asbestos a year, with most of this large total derived from the Eastern Townships area of Quebec.

Modernization and enlargement of facilities has been a feature of industry developments in recent years. Through expanding and improving mine and mill operations, Quebec asbestos mining companies have recently spent or are now spending some $75 millions in the Asbestos, Thetford Mines, Black Lake and East Broughton areas.

At Asbestos, where one company produces more than half the asbestos mined in Canada, Canadian Johns-Manville Ltd. has recently put into operation the first section of the largest asbestos mill in the world. The second half of this giant project is now well in progress.

In the summer of 1954, the Johnson Co. of Thetford Mines completed its $8-million Megantic mine project at Black Lake, and at East Broughton, Quebec Asbestos Corporation is beginning work on its new $7-million Carey mill and transmission line. Scheduled for early this year is the official opening of the new Normandie mine of Asbestos Corp. More than $14 millions has been spent on this project which includes one of the most modern asbestos mills in the world.

Another major project is the Black Lake mine which is to be placed in production by the Lake Asbestos of Quebec, subsidiary of American Smelting & Refining. A modern 5,000-ton mill is to be completed with over-all expenditures of perhaps as much as $20 millions.

When the Black Lake program is completed, it will make possible a substantial expansion of the over-all output of Canadian asbestos.

While the Eastern Townships area of Quebec is the main centre of Canadian asbestos mining, other areas are growing in importance. A few years ago, Canadian Johns-Manville established a substantial asbestos mining operation in the Matheson area of Northern Ontario.

In the McDame area of British Columbia, a very unusual asbestos mining operation has been established by Cassiar Asbestos. Fibres of unusual length and of a very high dollar value are being taken from a large talus dump. Not only is there a supply of raw material on the talus slope sufficient for many years' operations but underground work has established additional reserves of comparable grade.

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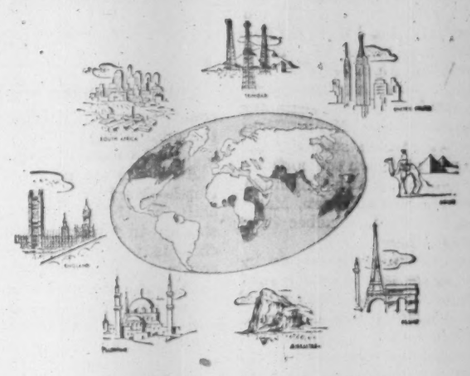

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Canadian Production Again Sets Record

MINING is a magic word in Canada.

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In 1954, a 10th successive annual increase in mineral production was recorded. The Dominion Bureau of Statistics estimated Canada's mineral output at $1,454,196,460 — 8.8% more than in the preceding year, almost three times the 1944 total. This value did not include the substantial output of uranium (statistics on this are withheld for security reasons).

Canada is a mineral bastion of defense in the free world.

Canada indeed stands today as the world's premier producer of nickel and asbestos; second in uranium, platinum, cobalt, gold, zinc, cadmium; third in lead and silver; fourth in copper. Prospects are bright for bigger production of iron ore—and for the new key metals, columbium and lithium.

A substantial further increase in output of uranium, nickel, iron ore, copper, lead, zinc and crude oil is in prospect as a result of current expansion programs or entirely new projects for which financing has been assured.

Production of uranium is expected to triple in the next year — and a large further increase is in prospect after that. Discoveries of new fields in Eastern Canada, as well as new mines at Beaverlodge, are keys toward this goal.

Major effort of the mining industry is now focused on placing on a production basis the remarkable mineral finds of the last few years.

Things To Come

There have been major lead-zinc discoveries in Bathurst area of New Brunswick (Brunswick Mining & Smelting and American Metal Co.), Pine Point area of the Northwest Territories (Consolidated Smelters) and the Yukon (Prospectors Airways Co.).

Copper strikes have included those of Gaspé area of Quebec where Gaspé Copper Mines is bringing a 6,500-ton concentrator into operation, Geco Mines in Manitouwadge area of Ontario, now slated for a 3,300-ton mill, Granduc Mines in British Columbia, Temagami Mining Co. in Temagami area of Ontario.

Chibougamau camp in Quebec has a new copper producer in Opemiska Copper Mines. Another operator, Campbell Chibougamau Mines, is slated to turn over a 1,700-ton mill this spring.

Nickel is still one of the most widely sought metals in Canada. The search has had considerable success outside the main Sudbury nickel area.

The Lynn Lake camp of Manitoba provided this prairie province with its first producer over a year ago — Sherritt Gordon. International Nickel Co. has announced plans to sink a shaft adjacent to the Mystery Lake area in the same general region of Northern Manitoba. International Nickel has also had a big exploratory operation in progress in Ferguson Lake area of the Northwest Territories. Permanent type housing has been taken in, and it's assumed there has been some degree of success.

North Rankin Nickel Mines, adjacent to Hudson Bay, on the easterly projection of the same belt of greenstones as Inco, has been successful in developing high grade nickel ore.

Quebec Nickel Mining Corp. in the Kenora area of Ontario, has been opening up high grade nickel ore in underground work. Falconbridge has a promising property in the same area.

In the Yukon Territory, Hudson Bay Mining & Smelting has expanded considerably the tonnage of nickel ore previously outlined on its Klaune Lake property.

The end of July, 1954, was a momentous period in Canadian mining history with the big Iron Ore Co. of Canada project shipping the first ore from the hematite pits of Labrador and New Quebec. Rated capacity is 10 million tons of ore a year. Other projects are also extending capacity, and a multiplication of iron ore output is in prospect.

How Production Stands

Here is the current production situation in Canada on leading metals:

Nickel: Canada is already producing about 85% of the world's nickel — a record 320 million lb. were turned out in 1954 — and further expansion of output is anticipated. This will come in the first instance from expanded production of Falconbridge Nickel and others in the Sudbury area of Ontario and Sherritt Gordon Mines at Lynn Lake, Manitoba. Other newer fields will likely contribute somewhat later.

Copper: Rates, as Canada's second most valuable metallic mineral. Value of output was $174,139,274 (599,851,280 lb.) in 1954 — over $24 millions higher than a year earlier.

A substantial increase in production of copper is in prospect as a result of early new producers such as Gaspé Copper, Geco Mines, Campbell Chibougamau, etc., and also because of increased by-product output expected from nickel mining.

International Nickel Co., Noranda Mines, Hudson Bay Mining & Smelting, East Sullivan, Falconbridge, Normetal, Britannia, and Granby, are among the main sources in the present production picture.

Gold: Has dropped in recent years from first to third place in the list of Canada's most valuable metals from a production standpoint. Present output is derived principally from a gold mining industry dependent — to a considerable degree — on federal subsidy. The rest comes as a byproduct of base metal mining.

Value of output in 1954 was $145,814,558, representing 4,279,852 oz. This compares with $139,597,985 and 4,055,723 oz. a year before.

Zinc: Lack of profitable markets led to contraction of output in 1954. Output at 747.7 million lb. was worth $89,277,569 against 803.5 million lb. and $96,101,386 in 1953.

Numerous Canadian mines, including such big producers as Consolidated Mining & Smelting Co. and Canadian Exploration Co., could step up production appreciably — and on short notice — if markets should warrant.

New copper producers will tend to augment zinc output with their byproduct mineral. From the longer term view, the Bathurst deposits of New Brunswick area will likely mean major expansion of zinc output over a period of years.

The bulk of present zinc output is derived from Consolidated Mining & Smelting, Hudson Bay Mining & Smelting, Barvue Mines, Canadian Exploration, Waite Amulet Mines and Golden Manitou.

Iron: A decade ago, Canada produced little iron ore (123,000 tons in 1939). In 1954, a record 7,280,256 tons were mined. And several large iron mining projects are just getting going.

Silver: Output showed a sharp rise to 31,541,757 oz. worth $26,261,667 in 1954 versus 28,299,335 oz. valued at $23,774,271 in 1953.

There has been little emphasis on silver by itself recently except for Keno Hill area in the Yukon, where Mackeno Mines is a new producer. Larger output is chiefly the result of byproduct from Barvue Mines, large zinc producer in Quebec.

The Output from Mines

	1953 Quantity	1953 Value	1954 Quantity	1954 Value
Antimony, lb.	1,488,105	$291,862	1,201,000	$321,150
Bismuth, lb.	117,366	209,557	272,700	583,174
Cadmium, lb.	1,118,285	2,236,570	1,027,221	1,746,276
Cobalt, lb.	1,602,545	4,013,077	2,181,900	5,593,200
Copper, lb.	506,504,074	150,953,742	599,851,280	174,139,274
Gold, fine oz.	4,055,723	139,597,985	4,279,852	145,814,558
Indium, fine oz.	6,752	9,588	.....	.....
Iron ore, ton	6,509,818	44,102,944	7,280,256	46,758,382
Iron ingots, ton	107,370	4,064,039	90,885	2,939,144
Lead, lb.	387,411,588	50,076,822	442,542,820	58,990,957
Magnesium and calcium	.....	5,295,840	.....	4,576,024
Molybdenite, lb.	323,907	215,527	875,000	534,000
Nickel, lb.	287,385,777	160,430,098	319,983,340	180,196,300
Palladium, iridium, etc., fine oz.	166,018	7,495,409	176,528	7,494,809
Platinum, fine oz.	137,545	12,550,981	149,145	12,505,758
Selenium, lb.	262,340	1,101,854	368,800	1,844,000
Silver, fine oz.	28,299,335	23,774,271	31,541,757	26,261,667
Tellurium, lb.	4,694	8,215	7,200	12,600
Tin, lb.	1,092,228	581,746	390,000	226,200
Titanium ore, ton	9,294	80,085	7,500	17,312
Tungsten (WO_3), lb.	2,446,028	5,689,160	2,000,732	3,596,387
Zinc, lb.	803,523,295	96,101,386	747,718,334	89,277,569
Non-metallics				
Coal, ton	15,900,673	102,721,875	14,825,000	96,078,000
Natural gas, Mcf.	100,985,923	10,877,017	122,854,500	12,683,200
Peat, tons	.....	.....	.....	.....
Petroleum, crude, bbls.	80,898,987	200,582,276	95,480,100	245,995,500
Arsenic oxide, lb.	1,403,740	56,150	443,900	18,800
Asbestos, tons	911,226	86,052,895	966,883	93,079,931
Barite, tons	247,227	2,220,292	222,519	2,160,469
Diatomite, tons	103	12,150	104	12,168
Feldspar, tons	21,246	347,164	15,439	307,741
Fluorspar, tons	88,569	2,670,585	120,078	3,011,938
Graphite, tons	3,466	366,528	1,626	165,000
Grandstones, tons	15	900	15	2,100
Gypsum, tons	3,841,457	7,399,884	3,957,268	7,054,036
Iron oxides, tons	10,308	195,801	5,799	181,073
Magnesitic-dolomite and brucite	.....	3,056,392	.....	4,008,678
Mica, lb.	2,265,128	161,128	2,503,229	90,479
Mineral waters, gal.	309,585	165,484	310,000	165,150
Nepheline syenite, tons	113,345	1,576,271	120,484	1,740,000
Peat moss, tons	81,654	2,643,019	87,257	2,986,961
Perlite, tons	1,112	11,120	.....	.....
Quartz, tons	1,785,574	2,070,617	1,742,951	1,589,254
Salt, tons	954,928	6,974,501	962,458	8,506,929
Silica brick, M	83,720	712,271	2,143	474,635
Soapstone and talc, tons	27,408	285,755	25,691	301,958
Sodium sulphate, tons	115,565	1,681,258	165,521	2,547,586
Sulphur, tons	358,850	3,172,698	503,237	4,540,463
Titanium dioxide, tons	100,527	4,206,496	82,386	3,680,077
Structural Materials				
Brick, tile, etc.	.....	29,777,731	.....	31,520,243
Cement, bbls.	22,238,335	58,842,022	22,552,788	59,405,097
Lime, tons	1,228,760	14,484,013	1,217,343	14,333,152
Sand and gravel tons	101,033,949	53,485,401	105,430,550	56,884,521
Stone, tons	19,849,017	30,613,051	34,212,319	37,242,580
TOTAL	.....	1,336,303,503	.....	1,454,196,460

Iron Ore: Big New Giant

Quebec-Labrador Start Feeding World's Mills

THOUGH 1954 was "the worst season in 15 years" for North American iron ore mining, for Canadian iron mines it was a year of record achievement with the promise of still better to come.

In 1954, Canada produced a record total of 7,280,256 tons of ore worth $46,758,382, compared with 6,509,818 tons worth $44,102,944 in 1953. And in 1955 and succeeding years, production totals are expected to reach new high levels.

The poor 1954 North American showing for iron ore mining stemmed directly from lessened demand which saw the U. S. steel industry operating much of the year as low as 60% of capacity. A rather similar situation prevailed in the steel industry in Canada. Yet since U. S. mills have been drawing more and more on Canada's relatively young iron ore industry, and since steel-making capacities in both countries are up, Canadian iron mines still recorded their peak year.

So great has been the rate of expansion in Canadian iron ore mining that the record output was achieved with some individual producers operating considerably below capacity.

Iron From the North

Highlight of the year was when Labrador - Quebec iron ore deposits came into production in July. Iron Ore Co. of Canada mined and transported more than two million tons of that ore over its new railway. Of this, 1,780,000 tons went to steel mills in Canada and the United States. IOCO thus did considerably better than the 1954 estimate of 1.5 million tons of shipments. Present capacity of the big IOCO operation is 10 million tons a year and this can be doubled when the St. Lawrence seaway is completed. The operation is being worked in gradually and shipments of six million tons are scheduled for the coming year.

Some of the larger consumers of iron ore participated in financing the IOCO project which has an assured market for 10 million tons of iron ore annually.

Output records would have been made by three other large Canadian iron mining operations in 1954 but for the "soft" market for iron ore. These are Dominion Wabana (Dosco), Steep Rock Iron Mines and Algoma Ore Properties (Algoma Steel).

Dominion Wabana is understood to have turned out about 2.4 million tons or the same as a year earlier. Steep Rock Iron Mines shipped 1,156,654 tons or slightly under the total of the previous year. It would have been possible to ship nearly two million tons from the new Hogarth open pit at Steep Rock had a market been available.

Steep Rock is proceeding with its expansion program and plans a much larger output when the iron ore market straightens away. Its objective is 5.5 million tons a year.

Algoma Ore Properties has capacity to turn out 1.6 million tons of high grade iron sinter a year from its Michipicoten area properties in Northwestern Ontario but actual output was perhaps only about a million tons.

The Canadian iron industry expects to grow in importance in the Western Hemisphere. The U. S. Mesabi range reserves of high iron ore are getting less year by year. New taconite projects are being brought along but costs are higher. There is growing production in South America but this faces a long expensive haul to markets, all of which leaves Canadian ore in an advantageous position.

By 1960, Canada could be producing 20 to 25 million tons of iron ore annually if the market can take it — and the experts think it will.

Caland Ore Co. (Inland Steel subsidiary) is expected to mine three million tons of ore a year from its Steep Rock project with first production due in 1960.

At Marmora, Ontario, Bethlehem Steel will shortly have its new iron beneficiation project in operation with an output of at least 500,000 tons a year of high grade iron concentrate.

International Nickel Co. is building a plant for production of by-product iron ore at a cost of $16 millions and expects an eventual output of a million tons a year.

Noranda will turn out about 75,000 tons of extra iron product a year from its Port Robinson plant near Welland, Ontario, which recently went into operation.

In Kirkland Lake area of Ontario, Jones & Laughlin are developing magnetite deposits with a substantial production anticipated.

But over and above expansions and new projects, a wide variety of other iron ore deposits await exploitation. These range from Ungava in northeastern Quebec to Bruce Lake in Red Lake area.

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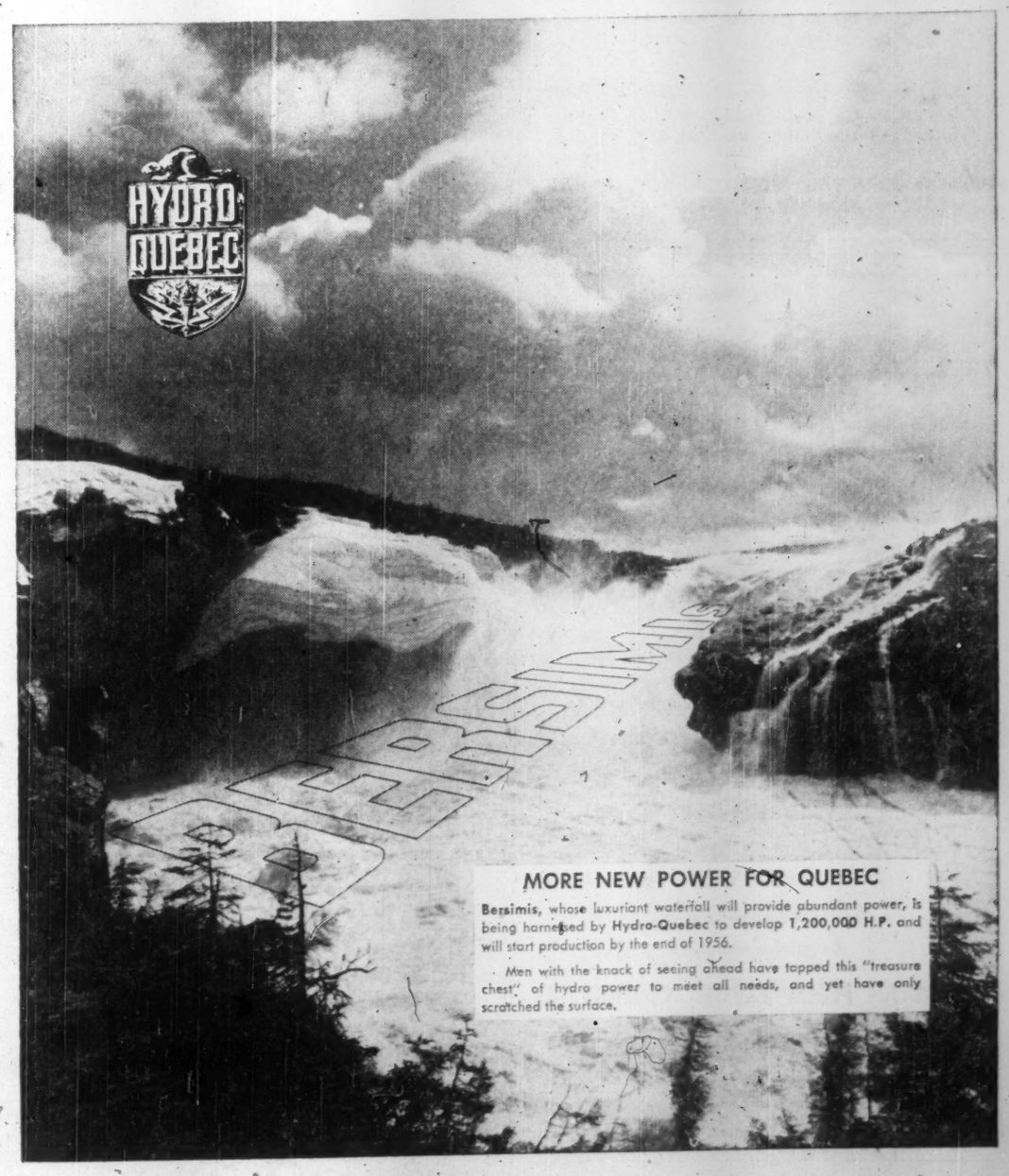

Canada's Industrial Might Is Growing Almost Daily

CANADA means wheat, nickel and lumber pouring in a mighty stream from vast farm fields, fabulous mineral reservoirs and endless forests.

But — more and more — it also means new factories, bustling masses of manufacturing workers and busy business executives making million-dollar decisions.

Within its 3.8 million square miles is a growing army of manufacturing industries as variegated as its people. And Canada's 15 million citizens spring from almost every land on earth.

In 1953, Canada produced manufactured goods worth $17,772 millions. The final 1954 figure should be about the same.

The pattern has been one of rapid and fairly steady growth since 1933—the year the world scraped the bottom of the depression of the '30s.

That year Canadian manufacturing was worth $1,954 millions. But by 1937, the figure had climbed to $3,625 millions. From there, it vaulted to $4,529 millions in 1940 —the first full year of the Second World War; to $9,074 millions in the peak wartime year of 1944.

By war's end, Canadian manufacturing had come to man's estate. It turned a war-constructed industrial mammoth to peacetime use and surged to a manufacturing total of $12,480 millions in 1949 and $16,983 millions in 1952 before pausing to catch its breath in 1954.

That is growth spelled out in bold capital letters.

It is true the expansion in the dollar value of Canadian manufacturing has been accompanied by a generally increasing price level. The dollar isn't worth as much today as in, say, 1939.

Even when the increased price level is taken into account, however, Canada's industrial stature is much greater than it was even a decade ago. Manufacturing growth has added stability to an economy once overweighted by the production of a few raw materials.

In terms of constant dollar value, the value of 1953 manufactured goods was almost 300% of the 1939 total and 150% of 1946.

To show the significance of Canadian manufacturing in another way, almost one of every four working Canadians is employed in some kind of manufacturing establishment. Between them, these Canadians (totalling 1.3 millions) draw annual salaries and wages amounting to about $4,000 millions.

Manufacturing spends more than $9,000 millions yearly on materials, many of them imported.

The $1,000-million industries — those where total annual production betters $1,000 millions—are headed by food and beverages. Others, in order: Transportation equipment, iron and steel products, paper products, wood products, non-ferrous metal products. Electrical manufacturing and chemicals are close to the charmed circle.

Where Manufacturing Centred

The great majority of manufacturing dollars are spent in the southern areas of Ontario and Quebec—Canada's industrial heartland.

Between them, Ontario and Quebec account for about 80% of all Canadian manufacturing dollar values. Ontario in 1953 (last year in which complete figures are available) processed goods valued at $8,868 millions. Quebec's production was worth $5,370 millions.

British Columbia, on the Pacific coast, is third. B. C.'s rapid expansion is paced by a vigorous young aluminum industry. The other provinces, in order: Manitoba, Alberta, Nova Scotia, New Brunswick, Saskatchewan, Newfoundland, Prince Edward Island.

Here are details of Canadian manufacturing, by main groups:

Food and beverages:

Value of factory shipments in 1953 was $3,479 millions. This was much the largest manufacturing sub-grouping and makes up more than 20% of the total. It employs about 175,000.

The size of the industry stems from two reasons: First, Canada is a heavy producer of the raw material of food and it is natural that it should process much of its production. Second, a domestic market of 15 million people must be supplied with food products.

Slaughtering and meatpacking alone is worth close to $1,000 millions yearly. Production of butter, cheese, flour, bread are other major industries. In the beverage field, production of beer and ale is a $200 million business, while Canadian whisky is a major export item.

With the appearance of portion-sized, easily-served fish sticks, fish processing has been expanding during the past 15 months. Fruit and vegetable preparation is another $200 million business.

Transportation equipment:

As auto buyers, Canadians are second only to U. S. citizens. As the Canadian standard of living rose following the Second World War, purchases of autos climbed accordingly. Although motor vehicle production declined about 29% in 1954 from the record $835 millions of 1953, last year appears to have been a better than average year. There is one vehicle for every 4.5 Canadians.

The motor vehicle parts industry alone is worth around $300 millions a year.

The Canadian market for foreign-made autos has varied sharply. Most American-model cars sold in Canada are made in Canada by subsidiaries of the big U. S. companies. Both British and German cars have sold well, the latter showing a sharp increase in the past year.

For years, Canada has been at or near the top in per capita transport of air freight. This is partly because of the immense distances between population centres and partly because of the lack of a network of other transport in the huge north country.

The result is that the nation has a $400 million aircraft industry and is also an excellent market for foreign producers. Canada produces military planes for itself and other North Atlantic Treaty Organization countries; and much of its own commercial requirements. Sturdy, easily-maintained single- and twin-engined craft are in heavy use in the rockbound northland. Typically, they are pontoon-equipped.

Great distances also mean heavy use of railway rolling stock. Thousands of boxcars are needed to transport grain to lake- and sea-ports; thousands of tankcars must carry petroleum products (even though the network of oil and gas pipelines is growing).

Needed also is a continual supply of modern passenger coaches for Canada's two big railways, two of the biggest in the world. Canada in 1953 produced 8,464 standard railway cars and 260 locomotives.

Iron and steel products:

Production value in 1953 was $2,090 millions in an industry which employed 189,000 in 2,625 establishments. Total salary and wage bill was the largest paid by any Canadian industry.

Primary iron and steel output valued at almost $460 millions employed almost 35,000 people in 1953. Production was down from a year earlier but there are firm plans for expansion.

Primary iron and steel, along with allied industries, is a comparatively high-wage section of the economy. The average Canadian wage-earner in 1953 drew about $3,000, whereas the average in primary iron and steel is about $3,600.

Canada rates as one of the world's major producers of farm machinery. Its own farms are highly mechanized, particularly those on the plains where grain farms may range up to 10 or 15 square miles in size.

Production of farm implements was down sharply in 1954, partly because of curtailed buying in the domestic market. Canada has competition in its native market from U. S. producers of farm machinery.

Canada imports more industrial machinery than it makes. Nevertheless, industrial machinery production is worth more than $200 millions.

In hardware production, too, imports have become an increasingly large factor in the last two years. British and West German producers have succeeded in getting a large segment of the Canadian market in competition with Canadian and American firms.

Canadian production of rails, structural shapes and steel plates is valued at some $70 millions annually.

Paper products:

Canada tops all nations in production of newsprint and paper. It is the major supplier to the huge U. S. market and exports to all corners of the world.

In the export picture, pulp and paper vies with wheat and flour as Canada's major product. As with wheat and flour, domestic consumption of pulp and paper products is a small part of the whole.

Paper products manufacturing in 1953 was a $1,553 million industry, employing 84,000 men and paying them an average of almost $3,700 yearly.

Quebec leads in the production of paper products, with Ontario close behind. These two provinces produce 75% of the Canadian output, British Columbia turning out most of the remainder.

Wood Products:

Here's a still-expanding industry. Large portions of Canada's forests are almost untouched. Nevertheless, there are areas where conservation practices are being applied in order to prevent serious depletion of easily available wood resources.

In 1953, wood and allied production totaled $1,280 millions, employed 136,000. Majority of the annual output is exported, much in an unmanufactured form. Markets vary greatly and exports to the U. S. have become relatively more important during the past year. However, Canadian lumber goes to all continents.

The Canadian domestic market is one of the world's top per capita consumers of wood products, largely because of a continuing construction boom. There is also a sizeable market for furniture, most of which is locally produced. Furniture production approaches $250 millions annually.

A growing veneer and plywood business is nearing the status of a $100 million enterprise.

British Columbia leads in wood and wood products production because of relatively good accessibility of most stands and the wet, warm climate which results in exceptionally good growth. Ontario and Quebec follow in value of production.

The industry is not yet realizing its full potential. Additional export markets at prices which allow it to compete for labor would mean quick expansion.

Non-ferrous metal products:

Because it produces vast quantities of non-ferrous metals, Canada is an important non-ferrous processor. It also exports much of its metal production in the raw or semi-finished states.

Although the nation has few more than 500 manufacturing businesses in this industry, they turn out an annual production valued at $1,242 millions (1953) and employ 52,000 people.

Smelting and refining is the major sub-group, worth $871 millions in 1953. Far back in dollar value are brass and copper products, $171 millions; aluminum products, $93 millions; jewelry and silverware, $51 millions; white metal alloys, $50 millions.

Broken down by provinces, Ontario again is the leader ($610 millions) and Quebec again is second ($482 millions). British Columbia produces most of rest.

Chemical products:

This is one of the most rapidly expanding industries which Canada possesses. Its production in 1953 totaled $873 millions, compared with $797 millions a year earlier. One of the keys to expansion is the tremendous postwar development of Canadian oil and gas reserves which serve as a nucleus for a petrochemical industry whose only prac-

(Continued on page 11)

Vibrant New Growth

Growth at a Glance

	NEW CAPITAL INVESTMENT 1952-54 inclusive* $ Millions	% of Total	EMPLOYMENT 1953 No.	% ch'ge from 1945
Food, Beverages	262.9	9.5	175,459	+13
Tobacco, Tobacco Products	9.3	0.3	9,494	—23
Rubber Products	39.6	1.4	22,600	— 4
Leather Products	6.5	0.2	33,107	— 3
Textiles	78.9	2.8	72,148	+ 9
Clothing	35.6	1.3	120,124	+20
Wood Products	82.3	3.0	135,833	+46
Paper Products	324.4	11.7	84,203	+38
Printing, Publishing, Allied Industries	55.5	2.0	66,274	+52
Iron, Steel Products	330.6	11.9	188,654	+11
Transportation Equipment	241.1	8.7	154,985	none
Non-Ferrous Metal Prods.	212.0	7.7	51,533	+16
Electric Apparatus, Supplies	106.8	3.9	76,856	+73
Nonmetallic Mineral Prods.	118.3	4.3	34,713	+78
Petroleum, Coal Products	252.8	9.1	17,261	+50
Chemical Products	322.0	11.6	50,208	—18
Miscellaneous	22.6	0.8	32,368	+35
Capital Items Charged To Operating Expenses	266.1	9.6		
	2,767.3	100.0	1,325,820	+20

*Includes preliminary estimates for 1954.

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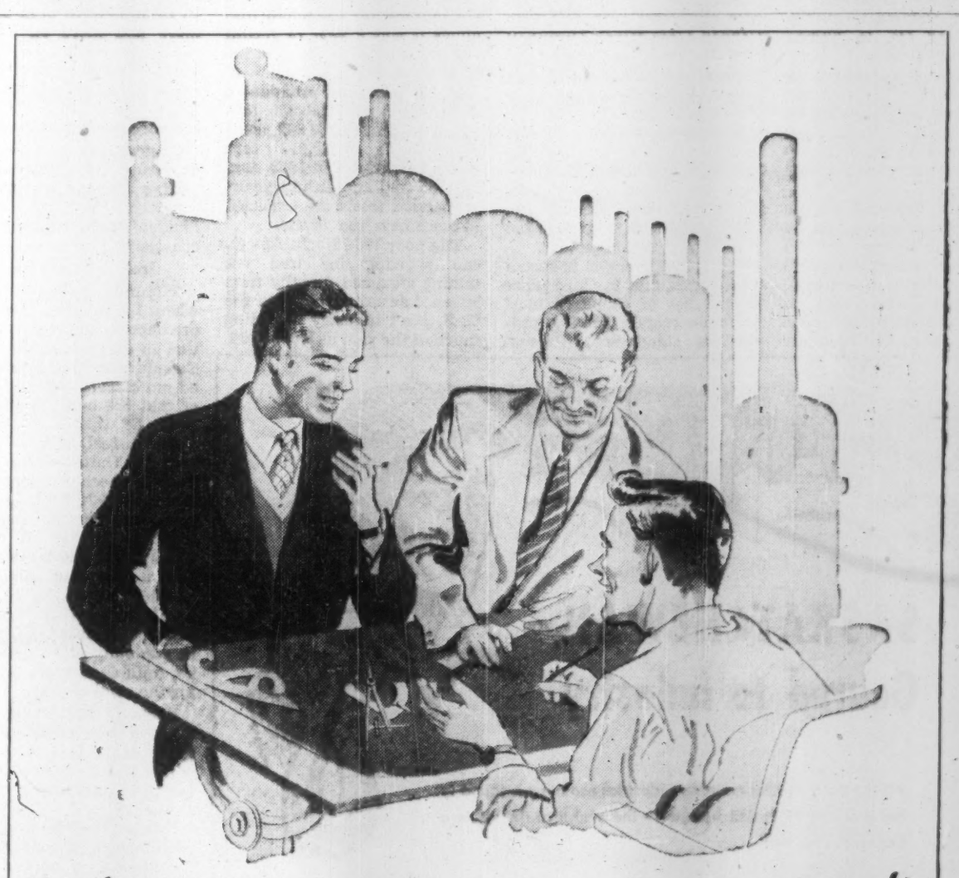

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The Canadian Economy: Here Are The Principal Statistics

Growth Indicators

	1953	1954 (est.)
Gross National Products ($ billions)	24.4	23.8
Exports ($ millions)	4,173	3,935
Imports ($ millions)	4,383	4,080
Total Investment ($ billions)	5,679	5,826
Construction Contracts ($ millions)	2,155	2,017
Labor Force (thousands)	5,316	5,417
Electricity (million kwh.)	65,489	68,110
Carloadings (million tons)	120	110

Income, Sales

Farm Cash Income ($ millions)	2,743	2,390
Labor Income ($ millions)	11,970	12,210
Retail Sales ($ millions)	12,092	11,850

Basic Industries

	1953	1954 (est.)
Steel (million tons)	4,010	3,113
Pig Iron (million tons)	3,012	2,215
Coal (thousand tons)	15,901	14,825
Petroleum (bbl. per day)	225,000	265,000
Rubber, synthetic (million lb.)	181	194
Newsprint (thousand tons)	5,721	5,978
Lumber (billion bd. ft.)	7.0	6.6
Sea Fisheries (million lb.)	1,224	1,359

Consumer Durables

	(Domestic-made)	
Cars, Trucks (vehicles)	484,594	350,068
Electric Refrigerators (units)	267,328	240,000
Washing Machines (units)	253,748	205,000
Radios (units)	754,116	498,000
TV Sets (units)	429,635	530,000

Metal Production

	1953	1954 (est.)
Gold (thou. fine oz.)	4,056	4,280
Silver (thou. fine oz.)	28,299	31,542
Copper (thousand lb.)	506,504	599,851
Nickel (thousand lb.)	287,386	319,983
Lead (thousand lb.)	387,412	442,543
Zinc (thousand lb.)	803,523	747,718

Agriculture

Field Crops ($ millions)	1,665	1,115
Wheat Exports (thousand bu.)	290,073	186,000
Wheat Flour Exports (thou. bbl.)	11,226	10,000

Steel: New Methods, More Output

Basic Industry Continues Modernization, Expansion

CANADA'S primary iron and steel industry, relatively one of the world's fastest growing in the postwar period, is also one of the most advanced, in technological progress.

Two notable achievements were made by Canadian steel plants in 1954:

North America's first oxygen steel plant;

North America's first continuous casting plant for steel.

Dominion Foundries & Steel Ltd., at Hamilton, Ontario, a few months ago put into operation the oxygen steel plant. This method is said to make better steel, and at a competitive price. It may in the future replace the present open hearth method of steelmaking.

The company purchased Canadian patents to the process some time ago. The process is attributed to Brassert Oxygen Technique A.G., of Zurich, Switzerland. It consists of blowing oxygen of high purity under high pressure onto the surface of the molten steel, instead of blowing air or air and oxygen in from the bottom as with a Bessemer converter.

The new oxygen steel plant at Hamilton is capable of producing 1,000 tons of ingots a day.

Metallurgical tests are said to show that oxygen steel is superior in many respects to that made in open hearths and electric furnaces. It is said to be more ductile and easier to form.

Savings in fuel costs are said to more than offset the additional cost of oxygen.

Another company built a new oxygen plant at Montreal to supply the Hamilton steel plant with the oxygen it will need. A supply of low-cost oxygen was of great importance; some steel men had thought it could not be done, but the oxygen company has been successful.

The nation's largest company devoted to specialty steel production, Atlas Steels Ltd., at Welland, Ontario, recently brought into operation North America's first plant for continuous casting of steel. This company and other smaller producers are also increasing production of stainless steel.

Stainless steel is used much more widely in the United States than in Canada, and there is believed to be a great potential market for stainless steel in this country.

New industries which will use the stainless steel already produced here are much desired. The increased supply of stainless steel has already brought several new consuming factories into existence.

The second plant for rolling wide steel strip was put into operation at Hamilton by Dominion Foundries & Steel Co. last year. It rolls up to 48-inch widths. Steel Company of Canada is the only other steel company with plant capable of rolling these widths.

There are four major producers of iron and steel, in three localities: Steel Company of Canada, and Dominion Foundries & Steel Ltd., at Hamilton, Ontario; Algoma Steel Corporation, at Sault Ste. Marie, Ontario; Dominion Steel & Coal Corporation, at Sydney, Nova Scotia.

Steel furnace capacity at the beginning of last year was 4,991,775 short tons of ingots and castings. For ingots, this capacity was made up of 3,919,200 short tons basic open hearth and 738,300 short tons electric furnace capacity. Steel castings capacity was 334,275 tons.

Here are individual reports on Canada's four basic, integrated steel producers:

Steel Company of Canada produces about one third of all basic pig iron and open hearth steel ingots produced in Canada. It is the largest producer of alloy steels, and makes more than half of all alloy steel used in the Canadian automotive industry and almost half the carbon steel.

It also manufactures finished steel products, coke and byproducts of coke. It owns interests in 12 iron ore mining companies in the United States and also owns coal and limestone properties.

An export order for 30,000 short tons of steel slabs, from Europe, was Steel Company's first large overseas order.

The main plant, at Hamilton, in Ontario, has the following equipment: 191 coke ovens using about 5,000 short tons of coal a day; four blast furnaces with a capacity of 3,300 short tons of pig iron a day; 17 basic open hearth furnaces and one 70-ton electric furnace with a capacity of over 5,000 short tons of steel a day; blooming mills with capacity of 1,250,000 short tons, net, a year; three merchant bar mills with a capacity of 350,000 short tons, net, a year; a wire rod mill with annual capacity of 160,000 short tons, net, a year; a combination 110-in. reversing plate mill and 56-in. six-stand continuous hot strip mill with capacity of about 600,000 short tons, net, a year.

A cold reducing mill with capacity of 300,000 short tons a year; tin-plate department, with capacity of 180,000 short tons a year; sheet mills with capacity of 150,000 short tons a year; galvanized sheets, capacity of 77,000 short tons a year. The company also operates four wire mills; bolt plants; a bar mill; a forging plant.

Dominion Foundries & Steel Ltd. became an integrated basic steel producer, producing steel from iron ore to the finished state, in 1951. It has manufactured a wide variety of primary steel products for many years, and still does. It produces plate, strip and castings, and many other products.

It has a blast furnace of about 800 tons daily capacity, four 60-ton open hearths, two 60-ton electric and several smaller electric steel-making furnaces; a steel plate mill and a cold rolling and tin plate plant.

It put into operation late in 1954 its oxygen steel-making plant. It will produce about 1,000 tons of steel ingots daily, or about 60 to 80% of the company's total production. Open hearth operations will continue for a considerable length of time before being replaced.

Construction of a second cold strip mill has begun; a new strip mill will make it possible for the company to increase its maximum cold rolling width from 36 in. to 48 in. The company will also be able to meet a growing demand for cold rolled sheet products.

It is also planned to have a new galvanizing unit, 750 feet in length, operating at 300 feet per minute. This new machine should be in production by the middle of this year. It will use part of the production of the new cold strip mill for further finishing.

The galvanizing division of another company was bought early last year.

Dominion Steel & Coal Corporation is a holding company for several operating companies which produce primary iron and steel, coal and iron ore, and fabricated steel and steel products.

The primary steel plant is at Sydney, Nova Scotia. The main fabricating plants are at Sydney, Trenton, Nova Scotia; Saint John, New Brunswick; Montreal; Toronto, Ojibway and Windsor, Ontario. (The company also has other interests such as a shipyard, railways, electric power plants, shipping.)

The company's subsidiaries production in 1953 totaled: 392,862 short tons of pig iron; 568,332 short tons of steel ingots; 2,286,534 short tons of iron ore from the mines at Wabana, Newfoundland; sales of coal were 3,445,628 short tons.

Dominion Steel & Coal Corporation recently obtained iron ore and steel export orders from West Germany, Britain and Mexico. It will supply 175,000 short tons of rails and 56,430 net tons of tie plates and other rail accessories to the Mexican Pacific Railways. This order is the largest single order for steel ever received by the company.

Sale of five million short tons of iron ore from the company's mines has been arranged. This ore will be exported in a five-year period, 1956-1961.

West German imports of iron ore produced by the company's mines have increased their 1955 orders from 250,000 short tons to 750,000 short tons. West Germans have also taken an option on five million short tons from 1956 through 1961. The company also got an order from Britain for steel billets.

Some $53 millions has been spent in the past few years on expansion and modernization of Dominion Steel & Coal plants and properties, including design, development and production of the "Continuous Miner," a machine capable of mining and loading coal underground at a rate of 15 tons a minute. The company's prodigious efforts at lowering the unit cost of coal has the "Miner" as the cornerstone.

The iron mines at Wabana, Newfoundland, have a total annual capacity of 2.8 million short tons of ore. The company's 30 coal mines in the Province of Nova Scotia have an annual "capacity" of about 6.5 million short tons of bituminous coal, though efforts are being directed toward increasing this.

Algoma Steel Corporation owns and operates iron and coal mines and is a fully integrated plant for manufacture of iron and steel.

Its yearly coke oven capacity is 1,340,000 short tons. Completion of a new blast furnace has brought blast furnace capacity to 1,280,000 tons a year. Open hearth and ingot production have also been increased in a recent expansion program. First-class finishing capacity has been increased from 180,000 tons to 682,000 tons; in each case, 120,000 tons is rail capacity.

A subsidiary company, Algoma Ore Properties Ltd., has begun a four-year expansion program at three mines. This program will provide 2.5 million tons of ore a year for 20 years to be sintered into 1.5 million tons of Algoma sinter a year.

The company's products include: coke; coke oven byproducts — benzol, light oil, sulphate of ammonia, tar, naphthaline, pyridine; pig iron — foundry, malleable, basic; blooms, billets and slabs; heavy and light rails; rail fastenings; heavy structurals; carbon merchant bars and light structurals; alloy merchant bars; sheet piling; universal plate; hot rolled sheet and strip; skelp; grinding balls; cold rolled sheet and strip.

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'Cinderella' Industry Keeps on Growing

WESTERN OIL in many ways is a "Cinderella" among Canadian industries. Few other large industries can show:

—A similar 1,100% growth in output in the last seven years.

—A 50-fold increase in available "raw material" (oil reserves).

—Such bright prospects for long-term expansion of production and markets.

During 1954, Canada produced an average of 261,590 bbls. of oil a day—practically all of it from three Prairie Provinces and the Norman Wells field in the Northwest Territories.

Pipelines now carry oil from the Prairies as far east as Sarnia, Ontario, and as far west as Vancouver, B.C. And Canada could have produced much more oil than was the case in 1954 if there had not been temporary limitation on markets.

It has been estimated that presently completed wells could satisfy 70% of Canada's current crude consumption of 560,000 bbls. daily if that were both physically possible and economically desirable.

Pembina Big Factor

Canada's proven oil reserves at the end of 1953 were estimated at 2,000 million bbls. including only a minor allowance for crude contained in the Pembina field discovered in June, 1953.

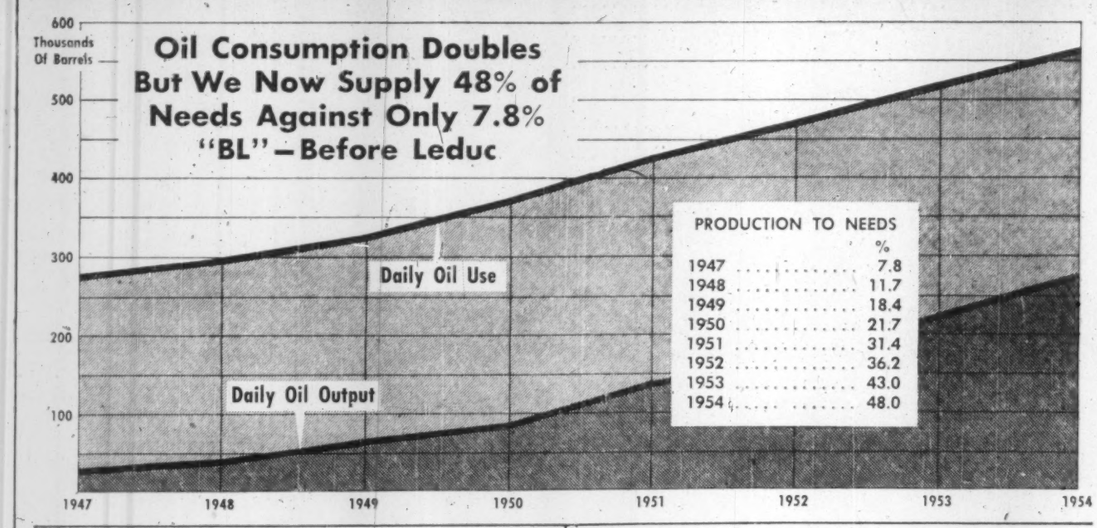
Pembina is expected ultimately to provide about 1,000 million barrels of oil by primary recovery with considerable secondary production anticipated as well.

With an estimated 4,000 drill sites provided by this huge field, there is a tremendous potential for expansion.

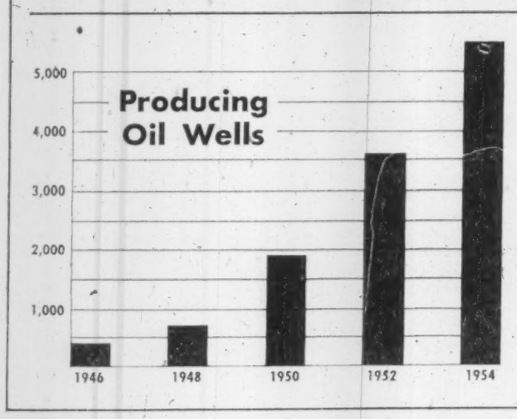
While no figures are yet available, oil reserves for the end of 1954 are estimated at about 2,500 million barrels. This estimate is for proven reserves. Much larger reserves could be inferred on an indicated basis.

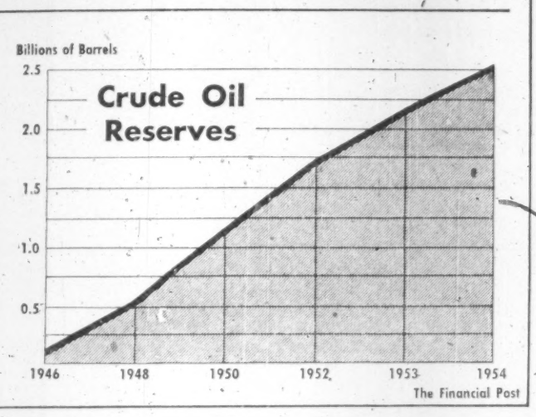
It appears quite likely that 1955 will provide much more production of oil than 1954, itself a record year.

Canada Closing The Gap



PRODUCTION TO NEEDS	%
1947	7.8
1948	11.7
1949	18.4
1950	21.7
1951	31.4
1952	36.2
1953	43.0
1954	48.0





Alberta is Canada's largest producing area and nominations by purchasers for Alberta crude for January, 1955, worked out at a record 287,820 bbls. a day. This was an increase of 10,954 bbls. a day as compared with December and a rise of 36,473 bbls. daily over the total for January, 1954.

More oil was scheduled to flow through the Trans Mountain oil pipeline to the Pacific Coast during January than in any previous month with nominations of 68,505 bbls. daily. It is interesting to note that Imperial Oil was the largest January purchaser of Alberta crude (152,660 bbls. daily) with British American Oil Co. the second largest purchaser (40,600 bbls. daily).

Present indications are that the level of exploratory and development drilling in Western Canada will keep developed oil producing capacity well ahead of expansion in oil markets. A sharp drop in well-drilling activity was experienced in the early part of 1954, due in large part to the unusual rains, which made drill rig movement impossible for a large part of the summer. But by November, 1954, the situation had changed rapidly for the better. A total of 938,147 ft. of drilling was completed in this month—a higher total than reported for any other previous month in either 1954 or 1953.

Three factors have had a particular influence in making for a higher level of drilling activity.

The large expanse of lush acreage for development drilling at Pembina has resulted in planning of major drilling programs.

Frost-stiffened land permits exploratory drilling in muskeg-covered territory in the winter time. An increase in exploratory drilling is thus customary in the winter.

But the biggest factor behind expectations for a fairly high level of drilling activity is perhaps natural gas. Westcoast Transmission Co. may supply B. C. and part of the U. S. west coast market with gas and this is expected to mean quite an expansion of exploratory and development drilling for gas in the Peace River section of B. C. and Alberta.

An area has also been designated for Southern Alberta as a source of gas for Trans-Canada Pipe Lines which expects to complete a large gas pipeline from Alberta to Montreal and Ottawa in Eastern Canada. There has been a tentative allotment of gas reserves by fields from the export area but a large program of development drilling must be done to guarantee supply. There has also already been a sharp step-up in exploratory drilling for gas in the export area which has a 260-mile stretch from Pincher Creek in the southwest to Provost in Central Alberta near the Saskatchewan border.

Reserves of gas fields from which gas is to be taken are as follows:

	Million M cu. ft.
Pincher Creek	2,320
Cessford	489
Homeglen-Rimbey	1,226
Nevis	613
Provost	417
Princess	170
Kessle	100
Duchess	53
Hamilton Lake	50
Countess	31
Oyen	16

†Adjacent sections have additional gas.

Actually Western Canada appears to have much larger reserves than are required for present plans to supply distant markets. Alberta on March 31, 1954, had estimated gas reserves of 13.4 trillion cu. ft. B. C. reserves are estimated at 3 trillion cu. ft. while there is at least another trillion cu. ft. of gas established in Saskatchewan.

Alberta with 13.4 trillion cu. ft. of gas has three times the province's estimated 30-year requirements of 4.6 trillion cu. ft. Of 5.3 trillion cu. ft. of "surplus" gas in the Alberta southern export area, 4.35 trillion cu. ft. has been dedicated to the pipeline.

With additional natural gas reserves being discovered at the rate of 1.5 trillion cu. ft. per annum, prospects appear bright for eventual development of additional gas export markets.

Expanded markets for Canadian oil and gas appear likely in both the U. S. and Canada, over a period of years.

The tremendous growth of the petroleum industry in Western Canada in the years since discovery of Leduc in 1947 has posed special problems of its own. One such problem is what to do with valuable butane and propane which must be stripped from natural gas. In fields such as Pincher Creek, these products may have to be returned to formation.

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AND CENTRE OF INDUSTRIAL CANADA EXTENDS A CORDIAL WELCOME

TO PROSPECTIVE VISITORS TO THE

EIGHTH CANADIAN INTERNATIONAL TRADE FAIR

MAY 30 — JUNE 10, 1955

CANADA, with a population of fifteen millions, is the fourth largest trading nation in the world in terms of the total value of goods imported from other countries. As an importer of goods it is surpassed only by the United Kingdom, the United States and France.

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Controller

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NATHAN PHILLIPS, Q.C.
Mayor, 1955

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ROY E. BELYEA
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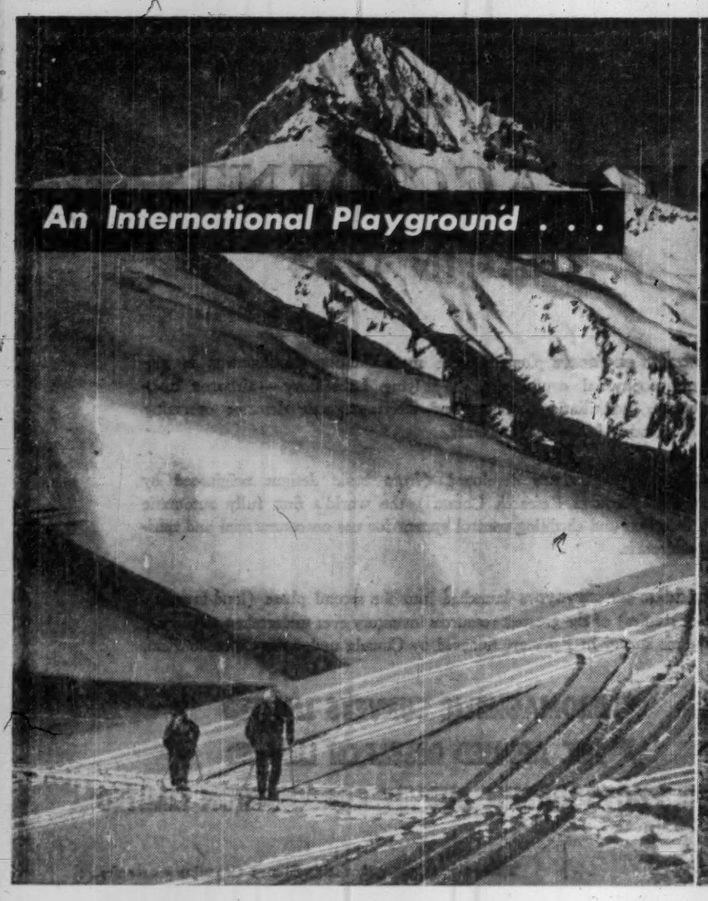
Controller

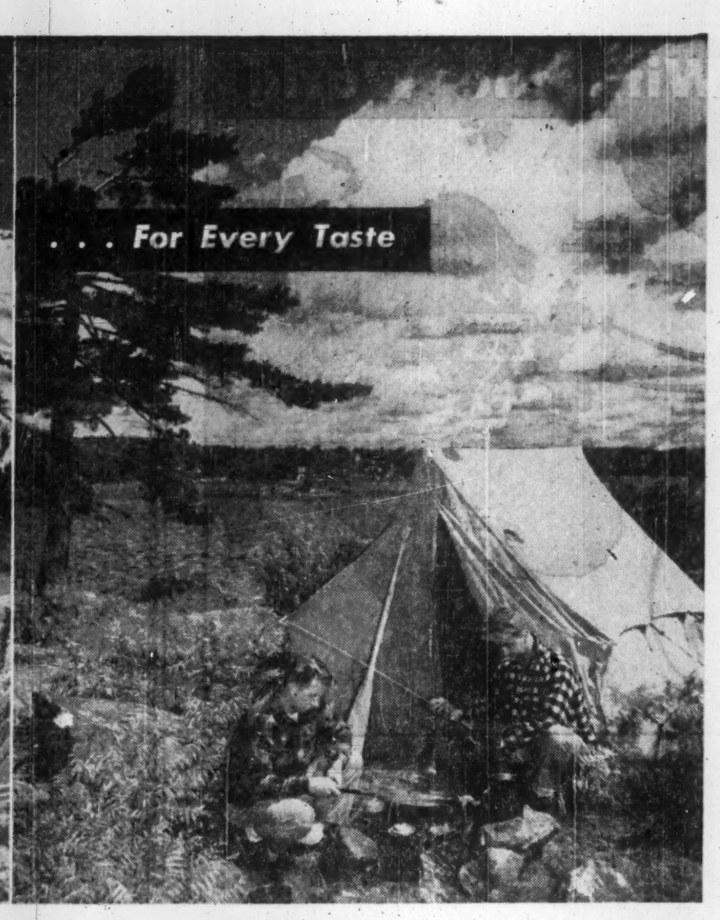
Like the tide, World Trade flows both ways, building up and strengthening the bonds of international good-will by increased knowledge and better understanding among nations through a fair exchange of goods and materials. It is a powerful and integrating factor in the work of the United Nations.

A personal visit to Toronto at the time of the Eighth Canadian International Trade Fair will give exhibitors a golden opportunity to observe at first hand, the pressing needs of Canada for more goods from other countries.

TORONTO AGAIN EXTENDS ITS HOSPITALITY TO ALL EXHIBITORS AND VISITORS ATTENDING THE FAIR

NATHAN PHILLIPS, Q.C.
MAYOR





There's a Big "Two-Way" Travel Market Here

CANADA—with an almost limitless playground, of almost limitless summer and winter variety—counts the tourist trade as one of its major industries.

Visitors from outside the country are currently leaving some $350 millions annually behind in travel and accommodation expenditures and purchasing of consumer goods. Many of them take back permanent mementos of their visit — handicrafts from the Maritimes, wood carvings from old Quebec, famed Hudson Bay blankets, miniature totem poles from the West Coast, Eskimo artifacts from the North.

Most of Canada's visitors and most of its tourist income come, naturally, from south of the border. U. S. visitors swell the "Canadian" summer population to well over 20 millions. From its tourist trade Canada earned $272 million U. S. in 1954 (estimated); $282 millions in 1953.

At the same time, the Canadian traveler is a big spender abroad, again particularly in the U. S. While many Canadians do spend summer and winter vacations in every corner of the U. S., much of Canadian so-called tourist spending in the U. S. is made up of quick week-end shopping forays across the long "undefended" border. In 1954 Canadians spent some $310 millions in the U. S. ($307 millions in 1953), more than total U. S. spending in Canada.

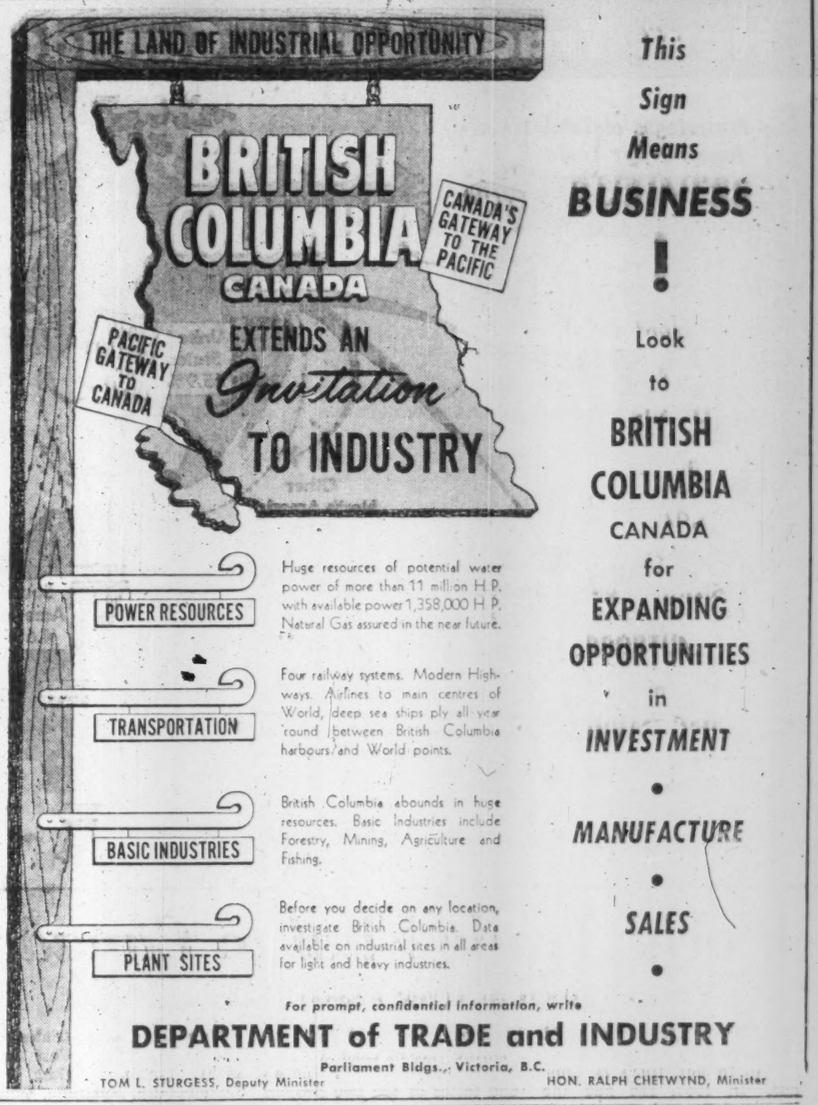
Big Travel Market

Canadian travel spending in countries other than the U. S. represents an attractive market, currently at around some $60 millions a year. Increased promotion from European countries, Mexico and the Caribbean islands is winning more and more Canadian tourist dollars in these countries. During 1954 more than 75,000 Canadians crossed the Atlantic and toured Europe.

Already trans-Atlantic shipping and airlines report heavy bookings for this summer that promise to at least equal those of last year.

To help keep the tourist trade on a two-way street, Canada has also stepped up promotion outside the country and, more important, she has been paying more and more attention to the traveler's comfort and interests when he arrives. Postwar, millions of dollars have been spent in the country in new and improved tourist accommodation throughout the land; millions more have been spent on roads and improved transportation facilities by rail, bus and air.

In forest and stream, mountains and plains, varied atmosphere and four distinct seasons Canada claims the natural assets to please the tourist. She sees her job now —already well under way—of catering to his physical needs and wants.



New Plants — Almost Daily

(Continued from page 8)

tical limitation is the availability of foreign markets.

A breakdown shows acids, alkalies and salts still in first place as the major chemical subgrouping ($125 millions in 1953) ahead of paints and varnishes ($114 millions), medicinal and pharmaceutical preparations ($93 millions), soaps and washing compounds ($89 millions), fertilizers ($84 millions), vegetable oil products, primary plastics, toilet preparations, polishes and dressings, compressed gases, coal tar distillation products, inks and adhesives.

Ontario is the major producer (almost 60% of the total) and Quebec is second. Alberta is growing rapidly, aided by its postwar oil and gas discoveries, but remains far behind British Columbia.

Canadian imports of chemical products have tended to exceed exports although this balance could change in the foreseeable future. The biggest import items are drugs and medicinals, paints and pigments, fertilizers. The U. S. is the biggest foreign supplier.

Electrical apparatus and supplies:

Here's still another of the fastest growers. Oddly, it is also one of the most vulnerable to foreign competition. U. S. competition from mighty factories geared to mass production has always been a key factor.

But British and West German firms particularly now are making themselves felt in the Canadian market for heavy apparatus.

Almost solely responsible for the expansion of the Canadian industry to $846 millions in 1953 and more in 1954 is the tremendous demand for television sets.

The first really substantial year for television set sales was 1953. As the number of television transmitters grew quickly during 1954, sales zoomed. Last year's sales total was in the vicinity of $250 millions.

Basic to the whole electrical manufacturing growth is the cheap power available in Canada and the fact that Canada is one of the world's major users of electrical power. This means a wide market for a great variety of electrical appliances.

The major subgroupings: Heavy apparatus, television sets, radio and radio parts, refrigerators, wire and cable.

Canadian electrical manufacturing in 1953 employed 77,000, the great majority in Ontario and almost all the rest in Quebec.

Although expansion continues, product prices generally are low and the industry's profit margin below the national average because of hot competition within the industry and from foreign producers.

By the time the television-engendered sales boom has slackened, another one resulting from the great hydro power-development of the St. Lawrence Seaway may be under way.

Petroleum and coal products:

More than 100 manufacturing establishments had production worth $813 millions in 1953, employed 17,261 people and paid them an average of more than $3,800 each.

The typical production unit, of course, is an oil refinery. Refinery growth in most provinces has been rapid, keeping pace with oil discoveries in the three prairie provinces — Alberta, Saskatchewan and Manitoba.

Construction of pipelines to carry oil and gas and their products also has been linked with production of petroleum products, which hit $687 millions in 1953. Coke and gas products were worth $120 millions.

All provinces except the four on the eastern seaboard (Newfoundland, New Brunswick, Nova Scotia and Prince Edward Island) share substantially in output of coal and petroleum manufactures:

Quebec, $278 millions; Ontario, $275 millions; Alberta, $82 millions; Saskatchewan, $64 millions; British Columbia, $49 millions; Manitoba, $28 millions.

Clothing:

Value of shipments from almost 3,000 factories in 1953 was $699 millions with 96,000 people employed in the industry. Clothing producers and members of other textile trades met stiff foreign competition during 1954 and some unemployment resulted. As 1955 began, there were some signs of improved markets for the Canadian industry, but competition remained razor-keen.

Major 1953 subgroupings were factory-produced men's clothing, $274 millions; factory-produced women's clothing, $224 millions; fur goods, $63 millions; factory-produced children's clothing, $44 millions.

The clothing industry is centred in Quebec, where almost two thirds of output is produced. Ontario turns out most of the rest.

Textiles:

This is one of the few industries where production value declined from 1952 to 1953. The drop was from $744 millions to $699 millions and the cause was competition from imports.

Numbers employed also declined, from 72,739 to 72,148. There were small cutbacks in production value in most of the subgroupings in the industry: cotton yarn and cloth dropped from $226 millions to $213 millions; synthetic textiles and silk from $158 millions to $146 millions; wool cloth from $73 millions to $62 millions. Production of wool yarn, oil cloth and linoleum remained about the same.

The primary textile industry depends heavily upon imports of raw material. Canada produces no cotton and only part of her requirements of wool.

Quebec and Ontario, in that order, are the major producers.

Knitting mills:

This has been listed as a separate industry for only two years. It employs 24,000 and its products were worth $163 millions in 1953. Hosiery is the major product ($62 millions), Ontario and Quebec the big producers.

Printing, publishing and allied industries:

Total production is $543 millions (1953) from more than 4,000 establishments employing 66,000 people. It's one of the fastest-growing industries.

Printing and publishing itself is a $250 million business; publishing (only) of periodicals reached $45 millions in 1953. Commercial printing and bookbinding was $175 millions; lithographing $42 millions; engraving, stereotyping and electrotyping $31 millions.

Expansion is tied to the seemingly limitless demand in Canada for advertising space and reading material. Preliminary indications are that more money was spent on advertising during 1954 than ever before, even though national production dropped slightly.

Nonmetallic mineral products:

Production in 1953 was $408 millions, up about 15% from the year before. Employment jumped from 31,422 to 34,713 in the same period.

In most cases this industry is based directly on natural resources. The main subgroups: Concrete products, $77 millions; glass products, $73 millions (a big expansion); hydraulic cement, $62 millions; abrasive products, $46 millions; domestic clay products, asbestos products, gypsum products, monumental and ornamental stone.

Rubber products:

A $291 million industry with 22,600 employees. Synthetic rubber now competes on even terms with the natural product and has an important effect on the price for natural. Ontario has almost 80% of Canadian rubber manufacturing.

Tires account for 50% of total production; footwear 15%; tubes 5%.

Leather products:

Production in 1953 was $222 millions, up slightly from the year before, with employment also a bit higher at 33,000.

Boots and shoes accounted for $131 millions of the 1953 total; leather tannery production for $48 millions; leather gloves for $10 millions. Good supplies of hides and somewhat lower production of finished products meant hide prices were soft during 1954.

Quebec and Ontario each produce about 47% of the total.

Tobacco, tobacco products:

Canada is a major producer of high-quality flue-cured tobacco which finds a good domestic market and is in demand among British buyers. Last year's crop was worth a record $80 millions and was the major raw material for a $215 million business.

Although tobacco-growing is centred in Ontario, the manufacturing industry is about two thirds in Quebec.

There are, of course, a wide assortment of other industries, not covered under general classifications, whose production in 1953 was worth some $262 millions.

Major industries here are plastics products, $38 millions; scientific and professional equipment, $64 millions (almost 50% growth from 1952); brooms, brushes and mops, $17 millions; clocks, watches and watch cases, $13 millions; signs, $20 millions; sporting goods, $13 millions.

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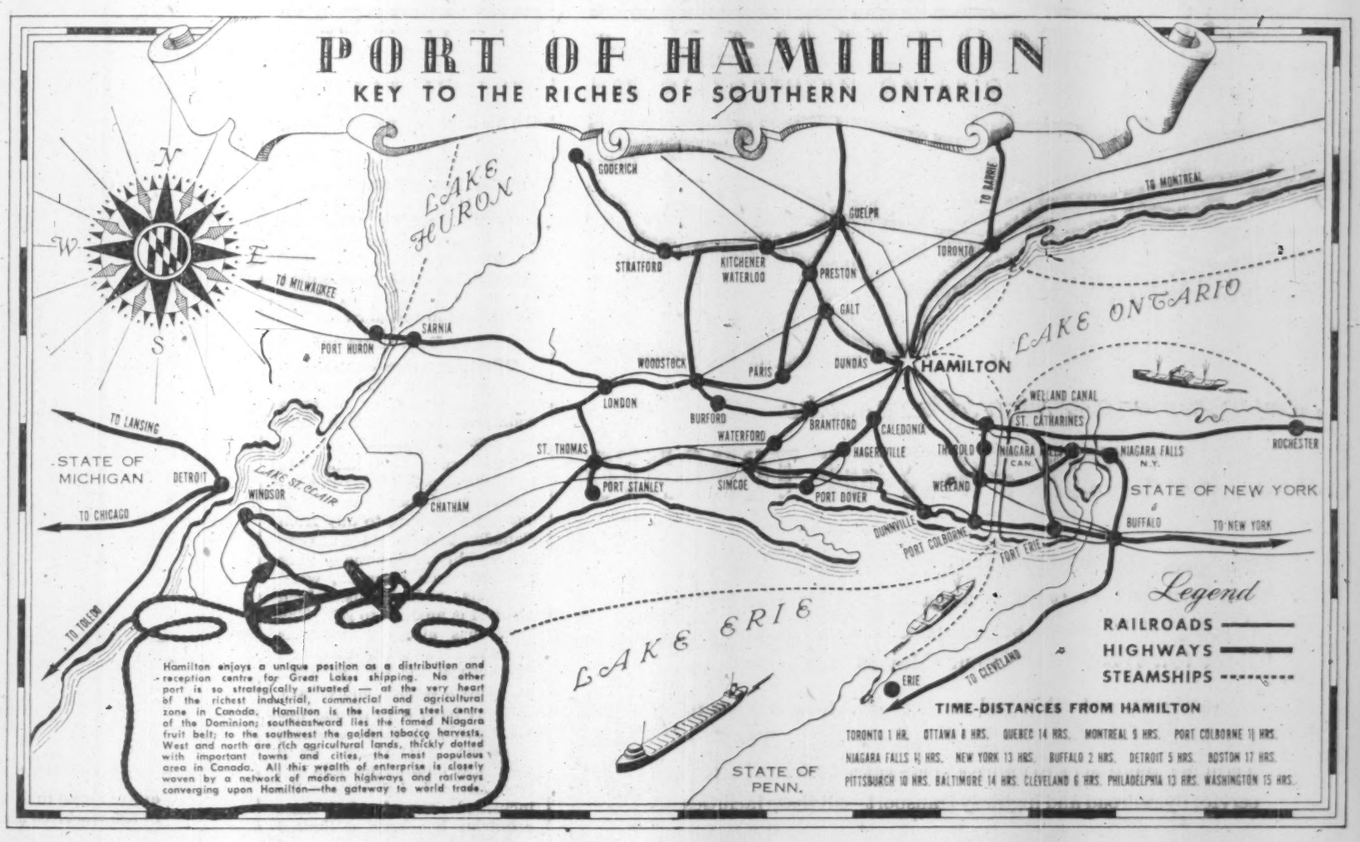

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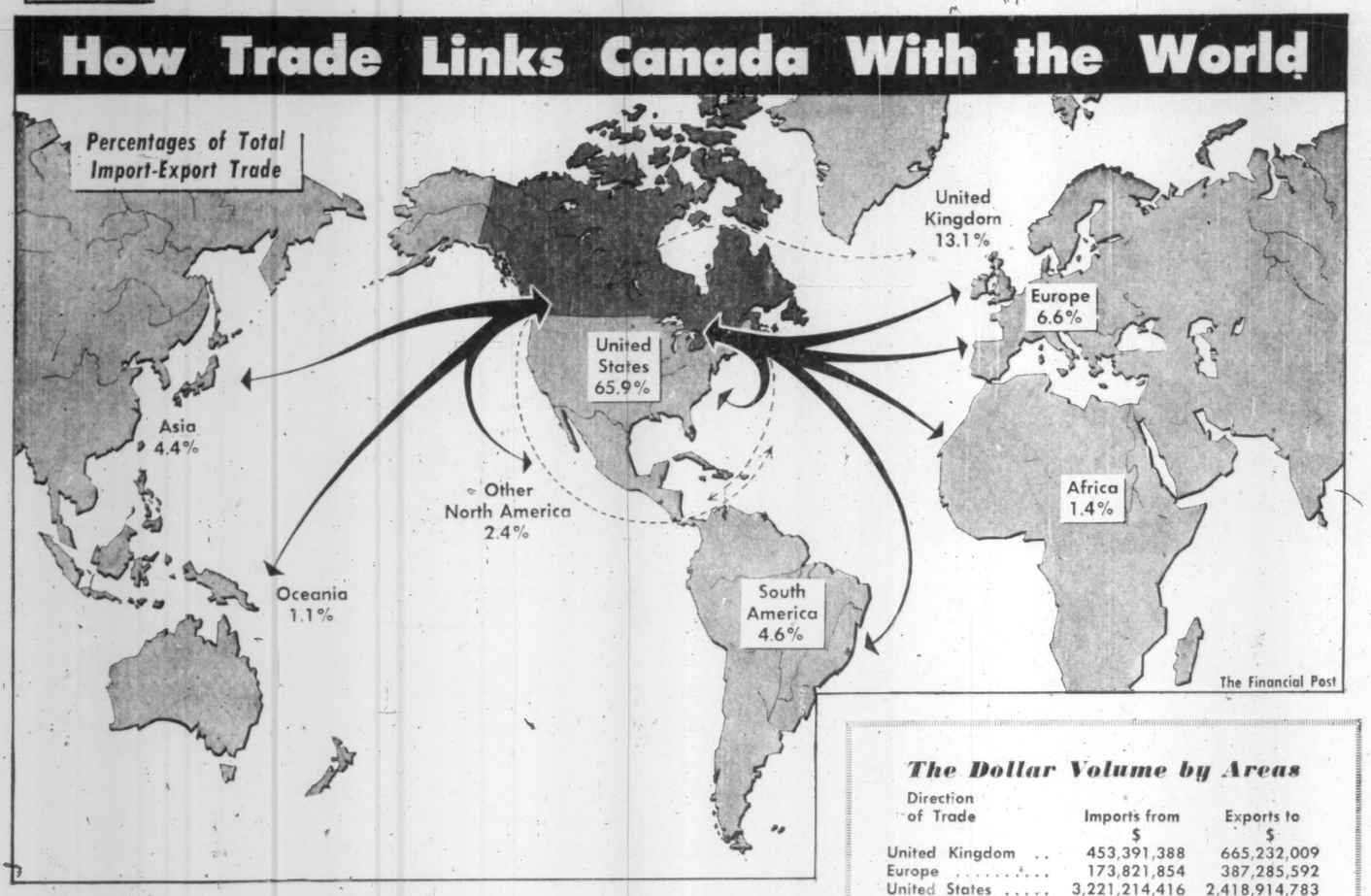

World Trade Vital to Canada

Trade Valued at Over $8,000 Million A Year

FEW countries in the world have as great an interest in foreign trade as Canada. In 1953, she had the biggest dollar volume of trade per capita, though figures available for 1954 indicate New Zealand may have taken over first place last year.

In total dollar volume, Canada's trade in 1954 was surpassed only by West Germany, the United Kingdom and the United States.

Because her imports and exports make up such an important part of the Canadian economy, the country is an eager market for world products. But, as Canadian manufacturing facilities expand and trade with the United States is maintained, the market becomes increasingly competitive.

The U. S. has traditionally dominated Canada's foreign trading. The reason: the countries are so close together that transportation is cheap and tastes of the two peoples are very similar.

In 1954, however, the trade volume with both the U. S. and the United Kingdom tended to be slightly lower and that with other countries higher. In the first half of last year, the U. S. supplied a smaller proportion of Canada's imports than in the first half of either of the two preceding years.

Imports from the United Kingdom remained about constant while proportion of exports to that area was reduced slightly.

Together, the U. S. and the U. K. accounted for 80.0% of Canada's trade in the first half of 1954 compared with 80.7% in the same period a year earlier.

Other leading countries with which Canada trades are Venezuela, Japan, West Germany, Brazil, Belgium and Luxembourg, Australia, Union of South Africa and Norway.

The whole Canadian trade total was down slightly in 1954. After increasing by 22% from 1949 to 1952, Canada's exports declined by 1½% in 1953 and were down a little again in 1954.

Prospects Brighten

Three major factors contributed to this.

The most substantial was the drop in wheat and flour sales from 386 million bushels in the 1952-53 crop year to 255 million bushels in the 1953-54 crop year. In the two years prior to 1953, record crops in Canada and redueed harvests in other wheat-producing countries had raised Canadian grain sales to record heights.

In 1953, however, other countries had better harvests, particularly those countries which normally import Canadian wheat. This meant they had less immediate demand for Canadian wheat, were inclined to reduce buying in the hope of lowered world prices.

There was some increase in orders for wheat in the last weeks of 1954, indicating that the present crop year would see more wheat sold.

Another important reason for 1954 decline in export trade was the smaller volume of goods flowing south into the United States. Less base metal was sold to the U.S., less lumber. Pulp and paper sales, however, remained firm.

Prospects are for an early upturn in this trade as general economic conditions in the U. S. improve substantially.

Keener international competition is another reason for reduced Canadian exports. Up until 1952, manufacturing of defense items kept many factories of the Western world busy so there was a greater demand for the output of Canadian manufacturing plants.

With United States plants freed of these defense commitments and capacity in other countries increased, volume of secondary manufactured goods in the world has increased sharply. Resulting competition has made it harder for Canadian firms to sell abroad.

Bigger Dollar Reserves

Offsetting these factors to a great extent in 1954 was the growing demand by overseas countries for Canadian raw and processed materials.

This growing demand has been made possible by the increase in dollar reserves of countries wishing to buy from Canada. The United Kingdom is now able to buy many bulk products such as grain, wood products and metals which Canada is anxious to sell. The U. K. has also expanded its demand for such Canadian agricultural and food products as tobacco, salmon and apples.

There have been similar developments in other overseas countries, notably South Africa, Belgium, Australia and New Zealand. Included in the increased exports to these countries has been a limited quantity of manufactured goods.

In the first 10 months of 1954, total merchandise exports were down about $274 millions, or about 8% from the first 10 months of 1953. Imports were also down, slightly more than the export total.

Flow of capital into Canada has kept the Canadian dollar at a premium in the international exchange market.

One of the brightest prospects for Canadian trade is the general improvement in the economic positions of the United States and countries of Western Europe and the United Kingdom. For Canadians, this means an improvement in the ability of these countries to buy Canadian commodities such as newsprint, wheat, woodpulp, aluminum and nickel.

As these countries improve their general economic position, they increase their manufacturing volume and will need more of the raw materials that Canada can supply.

And while prospects for exports are good, the sustained high level of the Canadian economy promises to maintain demand for imported goods.

In terms of production and income, 1954 was the second best year in the country's history, beaten only by 1953. From 1949 to 1953, national output increased by 5% to 6% each year.

More Money To Spend

The recent leveling of the Canadian economy began toward the end of 1953 but by the last quarter of 1954 had begun to pick up. Unemployment became a factor to be considered during the last year but averaged only 4.3% of the working force.

Personal incomes during the year were healthier than either production or employment. Except for western farmers hit by poorer crops, incomes for Canadians were higher on the average. Total labor income, for instance, ran about 2% higher in the first nine months of 1954 compared with the same period in the previous year. With prices about the same, Canadians had more money to spend on consumer goods — such things as automobiles, and all sorts of household items and appliances, many of which are imported.

Another key to the health of the Canadian economy is the continued high rate of capital investment. It has been running as high as 23% of the national product. The expected maintenance of capital investment is one of the important indications of continued high prosperity for the country.

Because foreign trade is so vital to Canada, there has been intense interest in the sessions of the General Agreement on Tariffs and Trade held recently in Geneva, Switzerland. The Canadian role has been toward greater liberalization of international trade, and the country is noted for having made trade concessions under GATT and abided by them, one of the few participating countries to do so.

The Dollar Volume by Areas

Direction of Trade	Imports from $	Exports to $
United Kingdom ..	453,391,388	665,232,009
Europe	173,821,854	387,285,592
United States	3,221,214,416	2,418,914,783
North America (except U. S.) ..	92,942,805	111,626,807
South America	252,331,805	139,392,911
Asia	114,078,973	258,203,928
Oceania	42,225,604	53,715,937
Africa	32,823,585	83,033,915
TOTAL	4,382,830,430	4,172,601,115

Figures are full year 1953.
Gold exports are excluded.

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NO ACCIDENT
THAT IN 1954

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** *Canadian researchers* developed (from basic designs originated by Canada's National Research Council) the world's first fully automatic ice detection and shedding control system for use on commercial and military aircraft.

*** *Canadian air surveyors* launched into the second phase (land-improvement studies) of the greatest resources inventory ever undertaken — the five year air survey in Pakistan, financed by Canada under the Colombo Plan.

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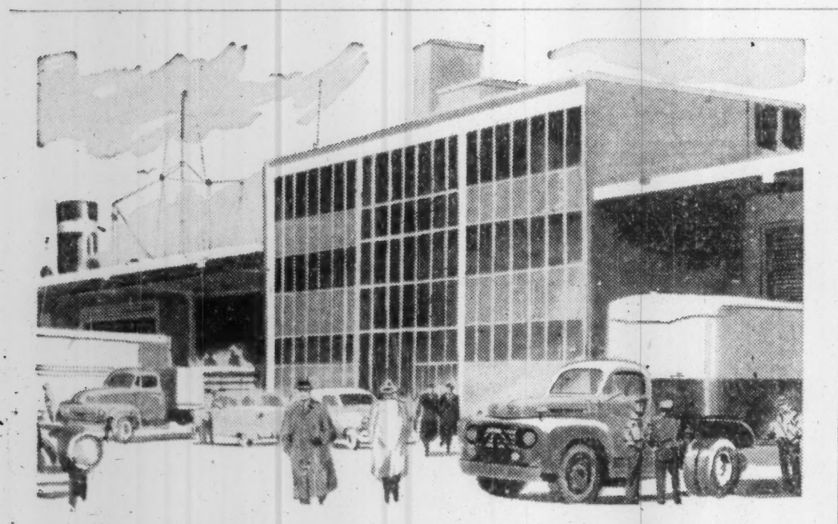

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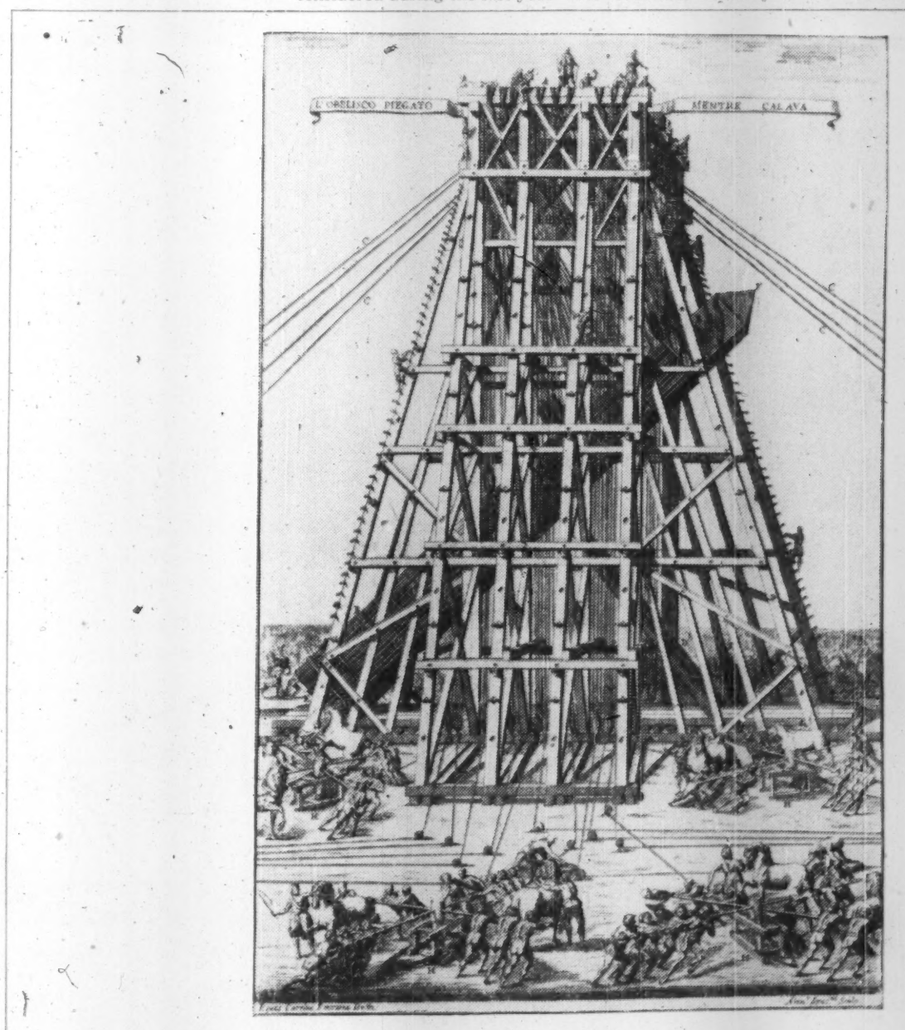

"Acqua alle corde!" The Obelisk in the Piazza di San Pietro in Rome was erected in 1586 with the help of 800 workmen and 140 horses. This detail from Carlo Fontana's engraving gives some idea of the splendid grandeur of the operation.

It was a close thing, so the story goes. The architect had not allowed for the enormous strain on the ropes and their consequent stretching. But, though silence was imposed under pain of death, one of the workmen—a sailor from San Remo—shouted at the critical moment: "Acqua alle corde!" And the water on the ropes, tautening them, saved the day.

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The Boom Ahead for Natural Gas

Eastern Canada Looks to Long Pipeline from Prairies

CANADA is on the threshold of a natural gas boom that is expected to alter radically the energy pattern of the country over the next 10-15 years.

Since the first Leduc oil discovery in Alberta in late 1947, natural gas reserves have been piling up because there was no large-scale market outlet. Total reserves in Alberta alone are now estimated at around 15 trillion (15,000,000,000,000) cu. ft. There is at least another two trillion cu. ft. in the Peace River area of British Columbia and over one trillion cu. ft. in Saskatchewan. What's more, these reserves are increasing at a rate in excess of 1.5 trillion cu. ft. annually.

Up to now, practically all of the gas has been found indidental to the discovery of oil. How fast will reserves jump when pipelines bring big waiting markets within economic range of the gasfields? When exploration crews actually start looking for gas?

Big Pipeline Job

Right now all eyes are on one of the biggest engineering jobs in Canada's history — construction of the 2,200-mile gas pipeline from Alberta to Eastern Canada. The line would run from a point close to the Alberta-Saskatchewan border across Southern Saskatchewan and Manitoba, around the northern end of the Great Lakes and down into Southern Ontario and Quebec. To a great extent the outlook for Prairie gas depends on the measure of success of this project.

Although no final decision has been made, the pipeline will likely be of 36-in. diameter pipe as far east as Winnipeg and 30-in. from there to a point near Toronto. A 24-in. lateral is planned from Toronto to Montreal and a 20-in. lateral south from Winnipeg to a point on the Manitoba-Minneapolis border.

Trans-Canada Pipe Lines (name of pipeline company) has been working rapidly to sign to firm contracts all the essential groups in the program—gas producers, distributors and industrial customers — in time to enable an early summer 1955 start on the $300-million construction job. Plans call for completion of the first stage of the job — from Eastern Alberta to Winnipeg—by late next fall. The second stage on to Eastern Canada would be ready by end of 1956.

Must Increase Market

Trans-Canada's problem is to set gas rates at levels that will satisfy all hands. It must price natural gas as cheaply as possible to utility companies in Eastern Canada so that they can compete against long-established competitive fuels.

Trans-Canada has been granted the necessary permits from the Alberta Government to take 4 trillion 350 billion cu. ft. of gas for export out of the province. This may be taken at the rate of 530 million cu. ft. daily. The rate may be revised upward, of course, as the over-all Trans-Canada market requires it.

If the U. S. Federal Power Commission approves the application of Northern Natural Gas—a midwestern U. S. gas pipeline firm which proposes to supplement its gas supplies from Canadian gas — Trans-Canada will export some 150 million cu. ft. of gas daily — increasing to 250 million — into U. S. for sale in the St. Paul-Minneapolis area.

Part and parcel of the whole Trans-Canada project is an ambitious market build-up program in Eastern Canada. By importing U. S. natural gas via an 80-mile, 20-in. pipeline from a Niagara River crossing point eastward to Toronto, plans are to rapidly build up the Ontario gas load in preparation for Western Canadian gas. Once the Trans-Canada line is completed and gas flowing freely from Alberta, the plan is to shut off the U. S. gas imports.

First flow of U. S. gas into Consumers' Gas Co. of Toronto mains began early in November and by mid-February it was planned to have the entire Greater Toronto area (second largest gas market in Canada) converted from manufactured to natural gas.

Union Gas Co. of Canada—largest supplier of natural gas in Eastern Canada — has recently arranged to import an additional 15.5 billion cu. ft. of U. S. gas annually (depending on FPC sanction) to greatly expand its market scope in Southwestern Ontario. Plans here are also to switch over to Prairie gas when it is available.

In another market theatre, an almost equally important gas drama is being acted out. After three years of planning and extended pipeline negotiations between U. S. and Canadian interests, a multi-million dollar deal has been worked out whereby Canada's Peace River gas will be piped down through British Columbia to Vancouver and a point on the international border. The gas will be sold at the border to U. S. pipeline interests for distribution in Washington, Oregon and possibly California.

The gas deal involves three companies — Westcoast Transmission Co., Calgary, Alta., Pacific Northwest Pipeline Corp., New York and El Paso Natural Gas.

The Energy Future

There has been much variation in the forecasts of how much of the rapidly growing energy market in Canada will be supplied by natural gas. A top Government official estimates total energy requirements by 1975 — on the basis of Canada's population growing to 22.5 million by then—at around 5.5 trillion cu. ft. (converted to natural gas). This is a little more than double the total energy consumed in 1953.

Provincial Council Offers Its Help

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The Provincial Governments' Trade and Industry Council is made up of representatives of the 10 provincial governments and has the blessings of the Federal Government and Canadian municipalities, which, in effect, it represents.

Its aims are spelled out as:

—To provide interprovincial consultation and co-operation on matters of trade and industrial development.

—to supply traders and manufacturers from Canada and abroad with a nationwide provincial service in these fields.

—to promote greater understanding throughout Canada of the economic conditions affecting the development of each of the provinces and all of Canada.

President of the council this year is Louis Coderre, deputy minister of the Department of Trade and Commerce, Quebec City. The council meets annually in a major forum of discussion and interchange of ideas and progress.

The council invites enquiries to any of its members who are:

Alberta
J. E. Oberholtzer, deputy minister, Department of Industries and Labor, Edmonton; R. Martland, director, Industrial Development Board, Department of Economic Affairs, Edmonton.

British Columbia
T. L. Sturgess, industrial trade commissioner, Department of Trade and Industry, Victoria.

Manitoba
R. E. Grose, deputy minister, Department of Industry and Commerce, Winnipeg.

New Brunswick
W. A. Moore, deputy minister, Department of Industry and Development, Fredericton.

Newfoundland
N. Short, deputy minister, Department of Economic Affairs, St. John's; G. T. Pushie, director-general, Department of Economic Affairs, St. John's.

Nova Scotia
J. R. Bigelow, deputy minister, Department of Trade and Industry; Halifax; O. N. Mann, administrator, Department of Trade and Industry, Halifax.

Ontario
F. J. Lyle, director, Trade and Industry Branch, 159 Bay St., Toronto; A. V. Crate, assistant director, Trade and Industry Branch, 159 Bay St., Toronto.

Prince Edward Island
W. E. Agnew, director of trade, Department of Industry and Natural Resources, Charlottetown.

Quebec
L. Coderre, deputy minister, Department of Trade and Commerce, Quebec City; J. I. McCabe, director, Industrial Commission, Department of Trade and Commerce, 1650 Berri St., Montreal.

Saskatchewan
D. H. F. Black, director, Industreal Development Office, Regina; W. J. Hansen, Trade and Marketing Services, Department of Co-operation and Co-operative Development, Regina; H. F. Ward, research economist, Industrial Development Office, Regina.

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Kitimat: Power for Aluminum

CANADA occupies an increasingly important position in the world aluminum picture. Right now, Canadian output is second only to that of the United States and about five times that of France and West Germany, next biggest producers.

Canadian production of aluminum in 1954 was more than 550,000 metric tons. That is about 3,000 tons more than in 1953 and more than 10 times as much as was produced in 1937.

Why is Canada in this position even though no bauxite—the raw material—is found in the country? The answer: abundant and cheap hydro-electric resources.

To take additional advantage of this power, Aluminum Co. of Canada went to the rugged, thinly populated interior of British Columbia on the West Coast and developed there a sprawling plant that was opened last year. The new smelter, eventually, will double Canada's output of aluminum.

Aluminum Co. of Canada, subsidiary of Aluminium Ltd., is the only producer of aluminum in Canada. In addition to its big new operation in B. C., the company operates smelters in Quebec and fabricating plants in three centres in that province and in Ontario.

There is good reason for locating these plants where they are near ocean routes. Most of the bauxite eaten up by the smelters is brought in from mines in British Guiana and one of the Los Islands off French West Africa.

The new British Columbia plant that Aluminum Co. of Canada (generally known as Alcan) has built is at Kitimat on Douglas Channel which leads into the Pacific Ocean. By the time it was opened last July, the huge plant had cost over $275 millions for the necessary dams, smelters, docks and hydro-electric channels.

When the plant is finally completed, at additional cost of hundreds of millions of dollars, it will be the largest single producer of aluminum in the world and will have a capacity of 550,000 tons a year. This is double the capacity of the parent company, Aluminium Ltd., and about equal to the combined production of the two biggest aluminum-producing companies in the United States.

Since Canada itself can only use about 100,000 tons of aluminum a year, bulk of the Canadian production will be for export, largely to the United Kingdom and the United States.

Again, the reason that a Canadian plant will meet the growing demand for aluminum in the U. S. is because of the relatively ample supply of cheap hydro-electric power in Canada and the shortage of it in the U. S.

The story of the building of Kitimat is the story of a fabulously large project completed in a few years in the most rugged mountain country.

While the plant itself was built on the coastline, the powerhouse to supply Kitimat was built 50 miles inland in a huge cavern. It now has an installed capacity of 450,000 hp. but is designed for an ultimate capacity of 2.2 million hp.

Water to operate the power plant comes through the tunnel which is fed by a vast reservoir totaling 358 square miles. To keep this reservoir filled, a dam 317 feet high was built to reverse the natural eastward flow of water in the Netchako River.

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CANADA'S ALUMINUM INDUSTRY

is country's fifth largest exporter

Over 80% of aluminum output is marketed in U.S.A. or overseas

From Alcan's four Quebec smelters and its new Kitimat smelter in British Columbia flows 25% of the world's primary aluminum.

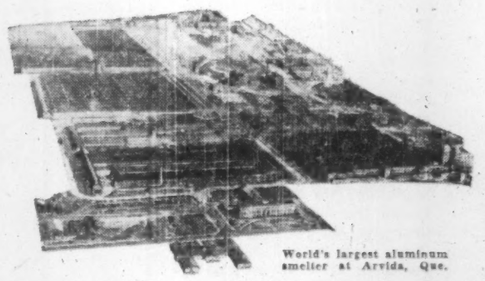
This production not only meets Canadian needs but is in major part available for export. In fact, Canada exports more aluminum than any other country.

This great enterprise was established at the turn of the century in Shawinigan Falls — soon after the commercial process for smelting aluminum was discovered. The process demands tremendous quantities of electric energy. From Canada's watersheds Alcan has developed millions of horse-power to feed aluminum reduction lines; yet abundant power resources remain for still greater metal production as domestic and export demand grows.

Canada's technical ability, supported by research, is constantly extending the range of uses for this light, strong, versatile metal. And the production potential of Canada's aluminum industry assures its continuing importance as supplier of aluminum to the markets of the free world.

▲ Loading aluminum for export at Alcan's docks, Port Alfred, Que.

▼ Canada's 5th and newest aluminum smelter, at Kitimat, British Columbia.



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Canadian Forests Serve The World

Globe's Leading Pulp, Paper Producer—And Still Growing

IN 1954, Canada's giant pulp and paper industry felt the pleasant impact of a sharp increase in demand from nations other than the United States.

The U.S., of course, was still by far Canada's biggest customer, absorbing over 65% of the estimated $1,200 million production. But the United Kingdom, Western Europe and the Balkans, South America, Africa, Australasia, and several other areas, all raised their buying substantially.

There were three reasons:

—stronger dollar exchange positions.

—a return to near prewar or even higher levels of consumption in many "mature" countries as they completed vast reconstruction programs.

—consumption gains in undeveloped areas as their economic growth continued.

The signs were clear right from the start. As early as January, Scandinavian newsprint and pulp producers were sold right out for all of 1954. Shortages developed in some non-dollar areas, as European mills were unable to fill all the orders pouring in from many of their traditional markets. Newsprint was in tight supply nearly all of 1954 overseas, and by fall some Canadian pulp companies had received urgent pleas for pulp from mills in Sweden and Norway who were oversold.

Had it not been for this resurgent overseas demand, the Canadian newsprint industry would have operated at less than rated capacity for the first time in eight years. And pulp sales would certainly have been smaller. For Canadian capacity to produce was higher than in 1953, while consumption of pulp and paper in North America showed little change — even a small drop here and there as the slight recession ran its course.

As it turned out, newsprint production reached a record of some 5,960,000 tons, up 4% from 1953 and above 100% of rated capacity. Exports of pulp were close to 2.2 million tons, 12% higher than 1953 and very close to the record set in 1951.

The Newsprint Story

Since newsprint is the biggest item in Canada's pulp and paper production table, let's look more closely at 1954 results.

The United States took about 4,875,000 tons, or around 0.3% more than in 1953. Canada consumed some 410,000, a gain of 8%. Other countries, however, bought 675,000, an increase of 43%. Total increase in shipments was 240,000 tons, of which overseas markets accounted for over 200,000. In the other hand, the increase in Canadian capacity last year over 1953 was also 200,000 tons.

Of the overseas markets which showed increases, Britain was by far the biggest. Her newsprint purchases totaled some 230,000 tons, up 115,000 as an improved exchange position permitted greater imports from dollar areas. Other regions showing big gains: Europe and the Balkans, South America, Australia and New Zealand, India and the Middle East.

Thus bigger non-dollar area business was an important factor in the 1954 newsprint and market pulp pictures. Even more significant, however, was the remarkably strong demand for all types of pulp and paper in North America, a market which from the Canadian point of view overshadows all others in importance.

Last year in the U. S. and Canada, a business readjustment was under way. Yet in neither country did pulp and paper consumption show any significant change. Probable reasons:

—purchasing power remained high, so despite the drop in industrial output consumer buying was quite well maintained.

—there were few top-heavy pulp and paper inventories in the distribution channels from mill to user. They had all been cleaned out during 1952 and 1953.

—more advertising was needed to sell goods, which generated strong demand for many types of paper.

—new uses for paper and paperboard were developed.

The result was that paper in both countries weathered the brief business storm with flying colors.

Newsprint and pulp, unhampered by tariffs in world markets, account for almost the entire export business of this Canadian industry. But practically all fine papers, paperboard, wrapping paper, etc. turned out in Canada must also be consumed here. Newsprint and pulp comprise the mass production end of the industry; output of the other products is tailored to the country's relatively small, widespread population.

As a result, the strong Canadian demand in 1954 also brought increased production of fine papers (some 200,000 tons), paperboard (about 740,000) and wrapping paper (some 245,000).

The 1955 Outlook

At the moment, 1955 is shaping up as a repeat performance of 1954, with one exception — U. S. demand for newsprint might be substantially higher.

Present forecasts are that Canadian newsprint production will run to capacity (which is 120,000 tons higher than in 1954). The pulp market looks healthy, with all Scandinavian prices up slightly during the first quarter and Canadian mills raising their prices on two grades. Steadily better business conditions are expected in Canada, which will mean strong markets for fine, wrapping and specialty papers, paperboard, etc.

Thus it's another bright outlook for Canada's most important business — larger in value of production, value of goods exported, and number of employees than any other manufacturing industry in the country.

Pulp and paper mills are going all-out to keep their first place position. Here are some things in their favor:

One is the conservative, hard-headed financial policy they have followed throughout the postwar years, when the most exciting boom in Canadian history has been under way. Pulp and paper expansion has been sharp, production volume has increased by more than 50% since the war, but it has been financed largely out of earnings, not from new debt. Today the paper companies are stronger financially than ever before.

Another is a larger research budget, aimed at securing greater yields at lower cost. Cellulose scientists in Canada are uncovering possibilities not even dreamed of 10 years ago.

Still another is integration, aimed at achieving better use of forest resources, extra stability and larger profits. Canadian pulp and paper companies, especially in British Columbia, are steadily creating vast industrial programs, resting on highly diversified markets and getting more and more out of each precious log of wood.

Take Care of Forests

Better forest management is also paying a very important role. In past generations, much of Canada's forest wealth has been wasted—it still is to a degree which horrifies many Europeans. But the pulp and paper producers have been forest management - conscious for years, and since 1946 sustained yield has been laid down as a definite policy of the whole industry.

However, timber limits held by the paper industry are only a small part of Canada's wooded area. And for the nation as a whole, fire, insects and disease still consume two thirds as much wood each year as the pulp and paper companies use. That's one measure of the room for improvement.

One new scheme which is important both for Canada's timber wealth in general and her pulp and paper industry in particular is the Tree Farm Movement, designed to encourage owners of private forests to treat wood as a crop which can be harvested each year. The pulp and paper producers operate mainly on lands leased from provincial governments, thus the Tree Farm idea is aimed largely at the small owners, most of them farmers.

In the past, too many of these small owners have stripped their lands bare of trees, leaving them idle or producing only a small fraction of their potential. In Southern Ontario, for instance, an estimated five million acres is now producing at perhaps one tenth of its optimum timber potential.

If owners can be persuaded to adopt sound forest management of these lands, it could mean this:

—many Canadian pulp and paper mills are now far removed from their source of wood supply. New sources on private woodlands near the mills would lower costs sharply. And the high of wood cost is perhaps the biggest problem facing the Canadian industry today; east of the Rocky Mountains, it is higher than anywhere in the world, a point of vital importance to an industry which depends so heavily on export markets.

The Long-term Outlook

Another bright note for Canada is the optimistic longer-term market outlook.

For as survey after survey is completed—by a dozen or more different groups — one fact stands out: demand for wood products is certain to increase very sharply in the future.

One study released in late 1954, for instance, was done by the Food and Agriculture Organization of the United Nations. FAO predicted that world paper consumption by 1960-62 would likely reach 65 million tons, a 38% increase over the 47 million figure for 1950-52.

About 4.6 million tons of this huge increase will occur in Europe, 8.2 million in North America, it was estimated. And nearly five millions in the four less developed regions of the world—Latin America, the Far East, the Near and Middle East, and Africa — together with Oceania.

Exchange Problem

What part will Canada play in this? The demand may be there, but the dollars to pay for it may not be. This exchange problem is not likely to vanish in the next few years, and until it does Canadian producers may hesitate to build new capacity based largely on hopes for bigger sales in those markets. But they should still be able to boost shipments somewhat, especially if temporary North American surpluses occur from time to time.

With the somewhat more dependable European market, the problem is slightly different. FAO felt that Europe's forests—while strained—could likely support the 4.5 million ton increase in consumption expected between 1950-52 and 1960-62. But it pointed out that newsprint expansion might well fall short of an estimated one million-ton gain in demand, indicating that competing uses for wood could shoulder that vital product aside. This is where Canada may come in.

FAO made no predictions as to how much of the estimated 8.2 million ton increase in North American consumption in the next five to seven years would be supplied by Canada and how much by the United States. But most people assume that this country will provide virtually all of the additional 550,000 tons needed here, plus most of an expected one million additional tons of newsprint in the U. S., and at least part of the pulp needed to turn out 6.7 million more tons of other paper and board products in that country.

It all adds up to an intriguing growth potential, which Canada is in an excellent position to exploit.

Canada's forested area totals close to 850 million acres. Of this, some 320 million are classified as accessible and productive and nearly 50% of this 320 million are not yet being used. Complete figures on timber volume and growth rates are not yet available, but it is generally assumed that the country could support a much larger pulp and paper industry. And it has been estimated that if Canadian forests were fully developed and well managed they could handle, in perpetuity, an output of all forest products twice as big as at present.

Mechanical Improvements

Canada's top spot in the world newsprint picture stems from its vast reserves of spruce and fir, plus plenty of cheap hydro-electric power. This combination, plus strong world demand, has generated an increase in newsprint productive capacity of over 30% since the war.

The remarkable point about this newsprint expansion is that it has been accomplished mainly by improvements to existing machines. Only four new ones have been added. This has meant that expansion has been relatively cheap, plans flexible. In addition, new capacity can be added faster this way than by building new mills or installing more machines.

Last year, one of the brightest tricks unwrapped in a long while was helping boost Canadian capacity, while at the same time cutting production costs, improving printing quality and making better use of the wood. It's a suction device which eliminates an important weak point in the newsprint production process. With it, the industry may be able to cut the expensive sulphite pulp content of its product from 15%-20% to less than 10%, and because the machines can run faster, at greater efficiency, capacity is raised.

One authority calls this the greatest development in the industry of the last 25 years.

All together, Canada has 131 pulp and paper mills, paying wages of some $375 millions a year. They are heavily concentrated in the central part of the country, with Ontario and Quebec accounting for about 100 of the total. British Columbia — where growth is perhaps faster now than any other area of the country—has 12 mills, with the balance located in Newfoundland, Nova Scotia, New Brunswick and Manitoba.

WHERE WORLD CAPACITY INCREASING

	Capacity 1954	Capacity 1955	Increase
	000's tons		
North America:			
Canada	5,920	6,040	120
United States	1,280	1,425	145
Europe:			
Britain	705	730	25
Finland	569	730	161
Sweden	375	390	15
France	370	380	5
German Republic	250	265	15
Italy	150	160	10
Far East:			
Japan	562	593	31
India	0	30	30
Formosa	9	10	1
Australasia:			
New Zealand	0	8	8
			566

Capacity, Production, Exports

	Rated Capacity	Production	Shipments to Canada	Shipments to U. S.	Shipments to Others
			000's of tons		
1939	4,633	3,175	190	2,281	653
1946	4,641	4,506	248	3,563	685
1948	4,883	4,983	306	4,128	533
1950	5,227	5,279	355	4,748	208
1951	5,360	5,516	360	4,784	360
1952	5,510	5,687	369	4,835	463
1953	5,723	5,721	398	4,861	473
1954 (e)	5,920	5,960	410	4,875	675
1955 (e)	6,040	6,050-6,150*	425	4,850-5,000*	725-775*

(e)—Estimated

*—The total shipment estimate is 6.0 million to 6.2 million tons, a slightly wider range than the production estimate. NAC states that narrower production estimate was taken in view of the improbability of either the high or the low shipment figures prevailing in all markets." NAC also points out that, if demand warrants it, Canadian mills could probably top even 6,150,000 tons next year.

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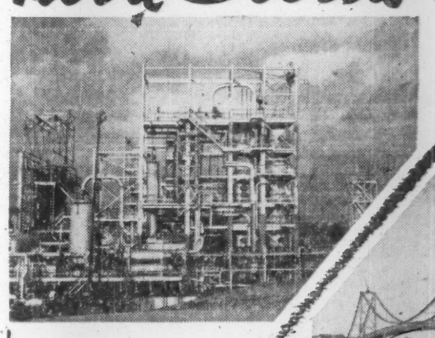

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That is literally true. The typical Canadian farmer doesn't worry about producing his own needs but, instead, grows crops on a mass production basis to sell for cash.

Then—just like a factory laborer, office-worker or business executive—he spends the money for consumer goods for himself and his family.

Tied to this picture of production-line farming are two major sociological trends:

—Farms are getting bigger, need fewer men to operate. Canada now uses only 20% of its man-power on the land compared with more than 50% not many decades ago. And production per man has multiplied many times.

—People are moving off the land into the cities. Many, of course, leave farms because there is no place for them in the new farm economy. Others continue to own and operate farms but live in towns and cities either all year or during the cold winter months.

The increasing trend to heavy mechanization is just one part of the insatiable farm demand for more capital. Others include:

—**Irrigation:** The first irrigation projects were small, in locations where the job could be cheaply done. The newer ones are huge, involving hundreds of thousands of acres, costing hundreds of millions of dollars. The Canadian Government's Prairie Farm Rehabilitation Administration has a long-term plan to irrigate three million acres of western land.

—**Electrification:** In 1921, 20% of Canadian farms had electric power. By 1951, 56% were electrified. The percentage continues to rise. Electricity not only adds to human comfort; it increases production. Electric milking machines, churns, power tools—these and many more add to productivity and, therefore, to the rural standard of living.

—**Transportation:** A huge road and rail network cobwebs the face of Canada. Farmer demand for continued improvement of these services and willingness to pay for them means heavy capital investment here, too.

That's the general picture. What does it mean in terms of production?

It's hard to measure production accurately from year to year because some products aren't sold for one or two or even more years after being produced. This is true mainly of the big grain crops. In addition, crop years do not coincide with calendar years or—often—with each other.

Thus the most reliable index of farm prosperity is cash income.

Canadian farmers during 1954 got about $2,400 millions in cash income. Gross production probably was around $3,000 millions; net income after operating expenses about $1,300 millions.

Latest detailed figures on cash income are for the first nine months of 1954. In that period, cash income was about $1,700 millions, $200 millions lower than for the same period a year earlier.

The drop is almost wholly the result of the most severe western grain-crop failure since 1937.

At mid-summer, 1954, grain production prospects were rosy. Then rust struck the wheat crop and caused multi-million dollar devastation. Bad weather smashed at what was left of the wheat yield and at the huge crops of oats, barley and rye. The wheat crop dropped from 600 million bu. of high-grade wheat in 1953 to 275 million bu. of poor-grade wheat in 1954. Coarse grain drop was less but substantial.

But there was some consolation:

—Heavy stocks of wheat for which there had previously been no immediate market will allow Canada to supply all demand and still have a big carryover by Autumn in 1955.

—There is no large burden of debt for farmers to worry about. Ten years of prosperity have left them in the best financial shape ever.

—Farmers have more money in the bank or otherwise invested than ever before.

Compensating for the grain disaster were steady incomes from livestock, dairy products, eggs, poultry, and a record $80 millions harvest in the Ontario tobacco fields. Fruit and vegetable production was down somewhat.

What about the future?

Assuming favorable weather, experts are unanimous: 1955 should be better than 1954. Markets seem to be improving slightly, it's possible a note of firmness is creeping into farm commodity prices.

In the grain-growing west, moisture reserves are excellent. Cattle- and hog-raisers are certain to increase production. Much beef and pork will be exported, almost all to the U. S. which pays the best prices. For each segment of Canada's varied farm economy, here's the picture:

Livestock

The $675 millions livestock industry will continue to stay around that level, despite the near-certainty of lower average prices than in 1954.

Wheat

Rust could again ruin the great wheat crop. But only rarely has the crop been so badly smashed two years running. So the feeling is one of guarded optimism so far as production is concerned.

Marketing is quite another question. A series of good world wheat crops has left a mighty surplus, most of it piled in elevators, temporary storage and in farm fields in Canada and the U. S.

That 1,800 million bu. surplus will be reduced by August but it will remain very large.

Other Grains

The long-run trend is for less production of wheat and more of coarse grains. This is the result of the ever-increasing demand for meat in the Canadian domestic market, the U. S. and elsewhere.

Coarse grains are necessary for livestock feed.

Coarse grain production in 1955 is almost certain to better 1954 figures. Weather, of course, could throw out this calculation.

The bad weather which reduced production this year may have saved Canada from a nasty marketing situation.

In crop year 1953-54 the U. S. imported a record quantity of Canadian coarse grains. Then it proceeded to clamp on import quotas for rye, oats and barley. All quotas were considerably lower than amounts of U. S. purchases in 1953-54.

Had Canadian production of oats, barley and rye in the Autumn of 1954 reached levels of the year before, Canada would have been severely limited by the U. S. restrictions. Since production fell, the quotas aren't much of a hardship.

Other Field Crops

Tobacco-growing is confined to small areas in southern Ontario and Quebec. Last year's $80 millions harvest is more than $10 millions higher than the best previous year. Britain is an important market for Canadian top-quality flue-cured tobacco.

Potatoes are a basic crop in Prince Edward Island and New Brunswick. Disastrously low prices in 1953 moved upward in 1954 and future prospects are improved.

Poultry and Eggs

Poultry prices have been low because production, in an effort to keep up with heavy demand, has outstripped it temporarily. Both poultry and egg production are worth around $130 millions annually. Prices currently are low for both, should increase in the last half of 1955.

Increasingly, poultry and eggs are produced on a large scale, no longer sidelines to be supervised by the farm housewife. Broilers, for instance, are produced typically in an old barn or warehouse, 10,000 or 15,000 at a time. One man, with conveyor belt feeders, handles the whole operation.

Dairy Products

Here, again, the expanding domestic market underwrites farmer prosperity. Dairying is a $400 millions business and still growing.

Canada needs export markets for dried milk and cheddar cheese. Cut-rate U. S. exports have hampered dried milk exports, but Ontario cheese-producers are finding British buyers willing to pay a premuim for their good-quality cheddar.

Fluid milk prices are tightly controlled by provincial governments in order to ensure fairly cheap milk. Result: The premium is on super-efficient operation, since profit margins are small.

Fruit

Canada for years has been a fruit exporter, specializing in apples. Production varies widely but averages around $40 millions yearly.

Nova Scotia's apple surplus last year threatened to become unmanageable until a hurricane wiped out most of the province's production. Many Nova Scotia apple-producers are switching to eggs.

Canada has only a few farm floor prices, unlike the U. S. But, in Canada, there is a strong trend to producer marketing boards. Most provincial governments have approved the principle of producers banding together to win more control in the marketing process.

The key question is how much power producers should be allowed to achieve. This is a point around which much controversy will rage in the next few years.

Aside from all the argument over marketing and sociological change in rural areas, Canadians take comfort from this certainty:

Farmers are in excellent position to weather their difficulties, whatever they may be and whenever they may appear.

Their products steadily improve in quality; farm practice improves continually; government efforts to find solutions for their financial and marketing problems intensify.

If this means anything, it means the Canadian farmer is going to become even more important as a world food supplier than in the past.

Harvesting the Sea Crop

Fishing Industry Experiments to Lower Costs

LAST summer, a helicopter appeared in the sky at St. John's, Newfoundland, swooped down to a waterfront jetty and landed. A cement mixer was trundled along the wharf and loaded into the machine. Within minutes, the helicopter took off for a point seven miles up the Terra Nova River.

This minor airlift speeded construction of a remote fishway project. It enabled its completion in time to assist salmon to reach their upstream spawning grounds quicker and in greater numbers than before.

That's just one of the methods the Canadian fishing industry is using to keep going in one of the world's toughest businesses. The helicopter, operated by the Department of Fisheries of Canada, was introduced in April, 1954. It has rushed sick fishermen to hospital, saved time in making insurance estimates, and has surveyed and photographed fishing coastlines.

More than 3,000 miles away, on the West Coast, in an effort to eliminate "off" years, three million salmon eggs were planted in an artificial spawning stream in British Columbia. After removal from fish at the Fishery Research Board's counting fence at Lakelse Lake, the eggs were taken by truck and railway to Jones Creek, near Chilliwack, for hatching.

This enterprise is a natural growth of the spirit and times of fishing. Few other businesses demand such qualities of resourcefulness and individualism. To survive, a fisherman must be tough. He must be able to stoically face seasons in which the fish unaccountably do not run.

The story of Canadian fishing and its $200 million yearly earnings is one of constant battle for improvements.

Seek Lower Costs

In the search for lower costs for a more competitive product, the industry is constantly experimenting. Nylon nets, although expensive, may become regular equipment. Fish-finding instruments promise to bring further changes.

Canadian fishing uses radio telephone (which eliminates a wireless operator), radar and loran. Using loran, captains can locate themselves accurately and swiftly on fishing banks, saving time and money.

Radar, although expensive, has proved itself. Radar-fitted trawlers are rarely late for their landing schedules through bad weather. Shore-based processing crews are not called out on pay only to wait for a fog bound trawler.

But despite science, the Canadian fishing industry can never solve one eternal mystery of its work. No expert can predict how many salmon, halibut, cod or haddock will spawn in a year. No one knows how many will survive to reach maturity four to eight years later. It is this mystery which helps keep the industry agile, ready to gamble.

Canada has 85,000 fishermen and 20,000 shore workers in processing plants. Two-thirds of the fishermen (56,000) and 80% of the plant workers (16,000) work on the Atlantic Coast. The Atlantic produces most fish, nearly $100 millions in market value. The West Coast earns $85 millions and Newfoundland depends on fish to the tune of $30 millions a year.

The enormous fishing banks offshore from the east coast of Newfoundland are the largest known in the world. They consist of an ocean plateau 25 to 100 fathoms below the surface and lie within 12 to 48 hours steaming from processing ports.

There is little chance of the banks being overfished. The International Commission for the North-West Atlantic Fisheries, partially promoted by Canada, and including in its membership the U. S., Canada, Denmark, Iceland, Italy, Spain, Portugal, France, Norway and the U. K., is moving to conserve and regulate "Bank" resources.

Conservation can assure some regularity of fishing but cannot eliminate the chanciness of the work. Fishermen are kept hopeful by remembering the good years such as the memorable 1954 season off British Columbia.

When fishing began, one crew took 17,000 sockeye in one haul, $28,000 worth of fish. For many, the catch was so big that loss of gear was heavy. Lines parted, sending fish and nets to the bottom. Nets ripped beyond repair and small boats foundered in rough seas.

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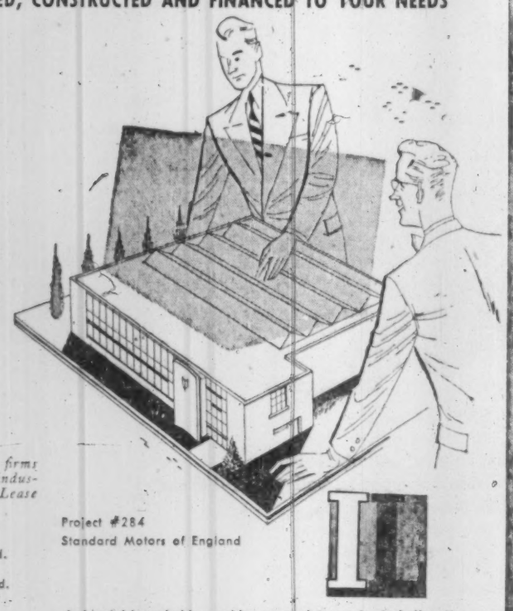

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SCARBOROUGH HAS EVERYTHING YOU NEED

Adequate Labor Supply 1954 saw over 25,000 new citizens move to Scarborough — 68% of all National Housing Units in Metropolitan Toronto were located in Scarborough in 1954. This is 36% more than total of the other 12 Metropolitan Municipalities. Present population of Scarborough is approximately 130,000.

Adequate Land Scarborough is largest Municipality in acreage — twice the Area of the City of Toronto.

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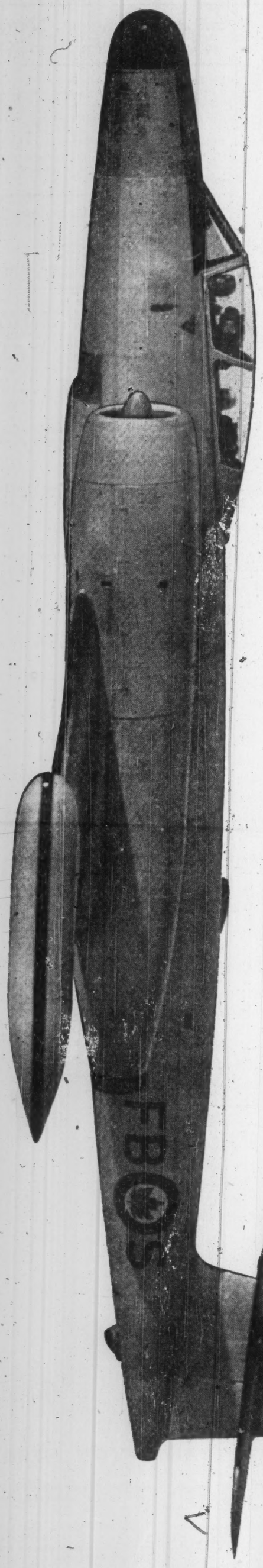

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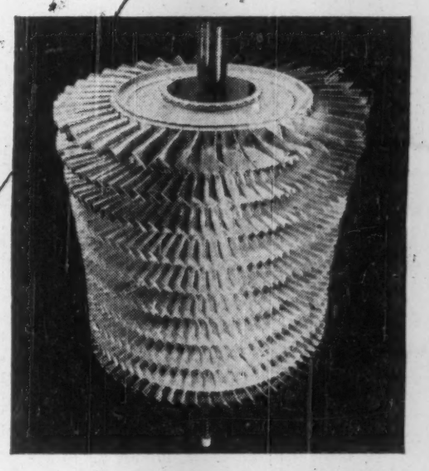
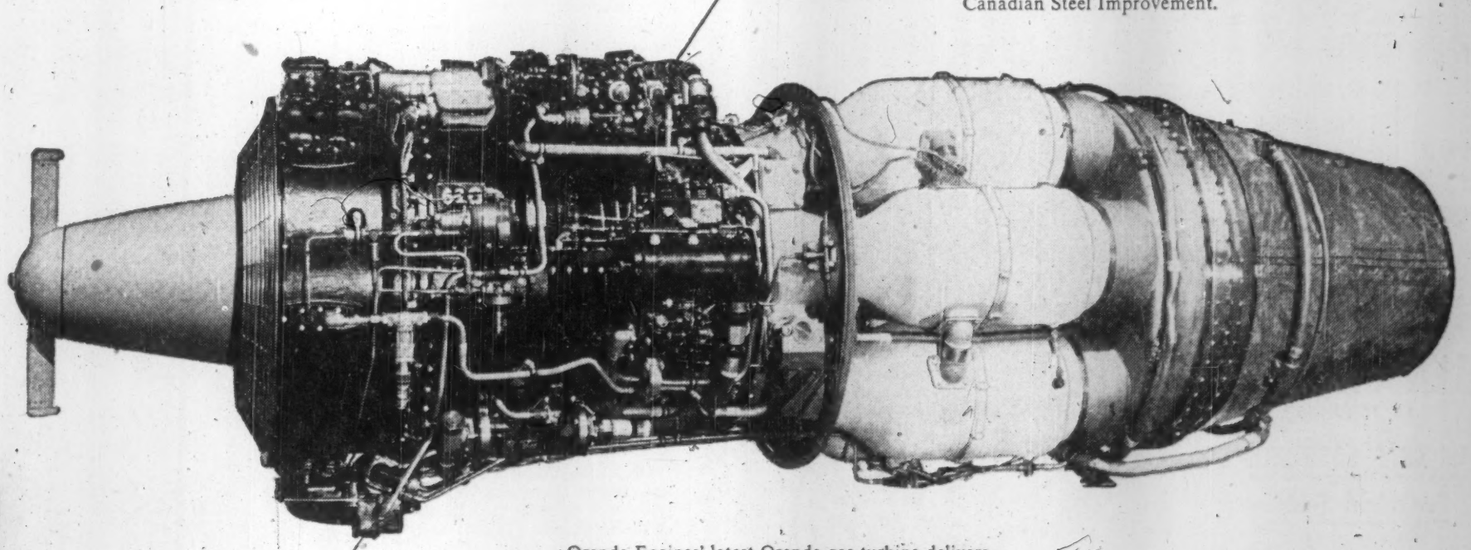


The most exacting forged components used in Canadian industry today—compressor blades for the Orenda jet engine—produced by Canadian Steel Improvement.



Orenda Engines' latest Orenda gas turbine delivers in excess of 7,000 lbs. thrust and powers both the CF-100 and the Canadair built F.86 Sabres.

Avro Aircraft's CF-100 in multi-squadron service with the R.C.A.F. shows its climbing power in this prize winning photo. (1954 National Show: Canadian Association of Professional Photographers of Canada)

DEDICATED TO CANADA'S JETPOWERED LEADERSHIP IN THE AIR

Overseas Edition **The Financial Post** *Second Section*

How to Sell in Canada's Big Consumer Market

It's A Rich, Varied, Busy —And Complex Marketplace

CANADA'S $11,900 million retail industry has shifted like a weather vane since the war, swinging into line with powerful new trends in the consumer market.

The causes:

—More Canadians work in the cities, live in the suburbs.

—More of them drive automobiles.

—They earn more money, have more leisure.

The effects:

—The motor car has created large suburban shopping centres, near suburban homes but far from mid-city traffic.

—To enjoy their leisure Canadians like to do a week's shopping at one time, under one roof.

—Because they have more money many Canadians are "impulse buyers." In other words, many purchases are not planned beforehand.

—Manufacturers and retailers encourage impulse buying with new ideas, new emphasis in packaging and store display.

—There is three-way competition between (a) suburban shopping centres, (b) big mid-city department stores and (c) smaller independent merchants.

These effects have left their mark on the physical face of Canadian communities, as well as on their economics.

The shopping centre, perhaps 40 acres in area, made up of as many as 50 individual stores, markets and banks, grew up around the motor car. Each centre is a witness to its own cause, standing in the middle of a parking area capable of holding up to 5,000 automobiles.

Revolution In Retailing

Not many years ago the typical Canadian retail shop was a dim quiet room with tall ceilings and small windows, in which the merchandise was often kept under wraps on high shelves.

Today's shops and stores are bright, open markets finished in chrome, glass and plastic. The merchandise is in full view, within reach of the customer so he can examine it, so its packaging can have full effect.

Architects have gone still further in the latest Canadian shopping centres. They have patterned many after ancient European market places. These are "not just shopping centres but points of community interest and activity," said one planner.

To draw the community into the shopping centre, its proprietors often sponsor games, raffles, contests and entertainments. Customers use its public notice boards to advertise local events.

Contrary to the old law of supply following demand, some shopping centres were built as nuclei of enormous housing developments. Stores and homes for the customers went up simultaneously.

The shopping centre as a whole often grows around a "super" food market, known simply as a supermarket. These large, sometimes giant, food stores operate on three basic principles:

—Self-service.

—Biggest sales, lowest prices.

—All foods under one roof.

The supermarket customer pushes a wheeled basket through rows of shoulder-high shelves, helping himself to merchandise. There are no salesmen as such. In less than an hour, he can choose a week's food for his entire family, pay for it, have it carried to his car outside and be on his way home.

These supermarkets load heavier emphasis on advertising (to "pre-sell" brands of goods) and consumer packaging (to influence the "impulse buyer"). Designers have streamlined packaging with plastics, paper and metal foils.

Markets Beget Markets

All this retail expansion, plus the postwar changes in selling itself, has had wide effects throughout the Canadian economy. Packaging, for instance, has grown into a $750 million a year independent industry. The new competition started building programs that totaled $134 millions for the construction industry in one year.

Suburban expansion in retailing, however, does not mean that the downtown "heart" of the average Canadian city is losing all its customers.

On the other hand, the downtown stores are facing three obstacles:

—Crowded public transportation from the growing suburbs to mid-city areas.

—Difficult traffic problems, mostly car parking space, in downtown sections.

—Canadian housewives with children find that it is simpler to shop near home, traveling by auto to shopping centres with ample parking space.

Of course, the mid-city independent stores and the large department stores meet the competition forcefully. Merchants band together in business-getting associations, sponsor gala celebrations, advertising, and so on. The larger stores try to supply free parking. One Vancouver department store, for example, is building a $600,000 garage to offer free parking to its customers.

For the future, it is reasonable to predict that Canada's mid-city stores will hold much of the country's "prestige" business. At Christmas, for instance, Canadians like the expensive shows and displays of the bigger stores, the shopping advantages of a wider choice under one roof, and the "prestige" labels of high-class stores. Telephone ordering and home delivery have brought much business to the department stores.

But it is also quite reasonable to predict that the average Canadian of the future will be a suburbanite, living in his own house, on his own plot of land. Since Canadians basically are home-loving people, it is probable that his buying focus will centre on his own suburb.

How Much Canadians Spend—And What They Buy

COMMODITY	AMOUNT ($,000,000)
Foodstuffs	2,500
Paper goods	96
Tobaccos	190
Clothing:	
Men & Boys	420
Women & Girls	675
Footwear	208
Cameras	12
Electrical appliances	190
Radios, Television, etc.	50
Furniture	180
Home Furnishings	94
Toys, Games	33
Cars & equipment (incl. fuels)	2,303
Jewelry	94
Leather goods	9
Farm, garden supplies	234
Scientific instruments	2
Alcoholic beverages	500

Figures based on 1951 census. Commodities are selective.

Where Retailers Sell More

These Are Canada's Seven Best Retail Markets

MARKET	POPULATION (Thous.)	% GROWTH (1946-1951)	NO. STORES	RETAIL SALES ($ mills.)
Montreal	1,400	22.0	14,200	1,211
Toronto	1,120	22.8	11,250	1,245
Vancouver	531	40.6	6,000	569
Winnipeg	355	18.0	3,000	353
Ottawa	282	24.5	2,400	252
Quebec	275	22.3	3,000	195
Hamilton	260	31.3	2,700	256

Figures based on latest census (1951). Market areas include city and its suburbs.

A recent estimate figured that Canadians still do about 50% of their retail spending in mid-city areas. Most of these purchases are the higher-priced items, like furs, jewelry, furniture.

The larger mid-city stores have built up "prestige" names during their years of retailing supremacy.

What the Market Is Now — What It Will Be

Meet the Canadian Consumer:

AT LEAST one member of each of Canada's 3.7 million families walked into a store today to buy something.

That average Canadian — a statistical average, of course—each year has almost $1,200 to spend, after he has paid his personal taxes. He likes to spend this disposable income on the things that make life comfortable, happy and interesting.

When this statistical Canadian walks into a store, he undergoes some remarkable changes. He becomes a consumer. In mass, he and his 15 million fellows turn into a lively, wealthy and anxious market for the world's goods.

For example, millions of Canadians drive automobiles. But there are 1.7 million Canadian homes without a motor car today. There are 1.3 million households without a sewing machine.

This big Canadian domestic market doubled in the first 25 years of this century, and doubled again by 1950. It is moving upward steadily today.

This market — and the ways to reach it with new or improved products — is worth some study.

As Canada grew from a primarily agricultural nation to a nation of cities, factories and international trade, not all the additional income went toward consumer goods and services.

What Canadians Want

Canadians acquired a new interest in things like life insurance, pension plans, medical care programs.

But at the same time they continued their search for even more physical comfort, more labor-saving services.

Moneywise, there was a relative decline in the importance of the basic requirements — food, shelter and clothing. More of the higher incomes went toward such things as better furniture, electrical appliances for the home, motor cars, health, education, charity, vacations.

Between 1910 and mid-century the average family spending for household appliances and modern furniture rose by 200%. Electrical goods and modern sanitation drew 150% more money from the family budget. Canadians spent 200% more on holidays, recreation and services.

There were three reasons for this wide change in Canadian buying habits:

—An influx of new peoples and new skills in the population.

—Advancing industrial development.

—Therefore, higher family incomes.

Most Canadians today are city or suburb dwellers. The latest census shows that 62% of them live in or around the cities, while at the beginning of the century only 37% called the cities home.

These urban and suburban Canadians, growing in number year by year, are constantly raising their standard of living.

The Market Key

With this in mind, Canadian economists have described the key to this growing, wealthy market as "the initiative and ability to understand and cater to the changing ways of living in the average Canadian family."

This has led to the development of the science of marketing, with its subdivisions of advertising, promotion, salesmanship, research.

Manufacturers and retailers both have had to turn their best efforts toward selling itself. They constantly seek new ways to induce the consumer to spend his money on the latest in goods or services.

The best open door to the Canadian market is a sound knowledge of these basic techniques, plus free imagination.

Imagine that a manufacturer wanted to put a new product on the Canadian market. Where would he start? The wise businessman would look over the situation in four stages:

—Study his own product. Does it fit into the Canadian pattern?

—Locate the logical market for it. Who needs the product, who will buy it?

—Once the market itself has been defined, study the customers themselves. Where and how do they live? How much will they spend on it? Do they have prejudices on products of a similar nature?

—Assess the product, production facilities and his proposed sales effort against the market. Will it work?

Once the manufacturer has found the answers to these questions, he faces still another set of problems. He knows what group of Canadians will want his product. But now, he must investigate:

—What stores should sell it.

—Its trade name.

—Its designs.

—Packaging.

—Display.

—Advertising.

How to Advertise

Here is where a sound marketing knowledge and a lively imagination will mean the difference between success and failure.

Take advertising in Canada as an example. There must be four basic factors in any successful advertisement:

—Reward: an appeal to the customer's self-interest.

—Correct mental approach: establishing real "contact" with the reader or listener.

—Valid claims: false claims of "best" and "most" are soon discovered.

—Repetition: constant selling moves more goods than intermittent selling.

Within this framework, imagination can create powerful selling campaigns. Good advertising lays the foundation of a "brand name," makes the consumer familiar with the product before he sees it in the shops. Marketing experts call this "pre-selling."

Once he has "pre-sold" his product, the manufacturer must decide where it should be sold to reach the maximum number of prospective customers. Suppose the product was a small pocket-size electric torch. It is a good reliable lamp, of use to practically any homeowner or motorist.

Simple market research will outline the prospective market — so many million Canadian automobile drivers, householders, truckers from St. John's, Newfoundland, to Victoria, British Columbia. Research also tells him that there is a need for the product and that the price is competitive.

At first, electrical and hardware stores would seem to be the best outlet for such a lamp. But there are other markets, too. Canada's "super" food markets (see article on retail trade), drug shops, tobacconists, restaurants, all offer a promising market as well.

With their higher earning — and spending — power, a good proportion of Canadian consumers have become "impulse buyers." These consumers will buy an item on sight, an unplanned purchase, if it appeals to them in usefulness, design, presentation.

This impulse buyer will buy a pocket lamp while doing his food shopping, buying cigarettes, paying for his meal. If he has been "pre-sold" by an advertising campaign, all the better.

Thus it is not enough for the manufacturer to supply stores with his product. The retailer must display it, preferably where the prospective customer can handle it, try it, compare it with competitive brands.

If competitive electric torches, for example, are clamped to brightly printed, colorful, intriguing display cards, they will attract the eye first. These store displays, which vary from simple cardboard posters to mechanical figurines, have become an important part of marketing. The experts call it "point-of-purchase advertising."

The product itself fits into display. It may be an excellent product, but does it have "eye-appeal" in itself? Are its colors attractive? Does it look more expensive than its price? These are points of design that go beyond engineering or quality control.

If the product is sold in a package, the package itself must have sales appeal. In fact, consumer packaging has grown into an enormous business in Canada, organized into professional bodies that constantly seek higher standards.

An "Exacting" Market

The Canadian consumer has come to expect good packaging. He wants an attractive package, which protects the product, tells him how to use it, and possibly may be of use to him after the product has been removed.

A package can look shabby. Its color may offend. It may be clumsy. It may not be distinctive enough to set the product off from its competition on a long, crowded, self-service shelf. These things can mean the difference between sales and failure in the modern Canadian market.

The Canadian consumer is exacting — but he can afford to be.

He will spend more money to buy something just a little more comfortable, slightly more luxurious.

But he wants reliability, too.

The French-Canadian consumer wants to be approached not only in his own tongue but in his own way of thinking.

The average Canadian is conservative in his tastes, but he can be easily persuaded to try something new.

He has few prejudices about where products are made, as long as they meet his standards.

This Canadian consumer market is not an Eldorado, waiting for a taker. It is a wealthy fortress that will fall to the attacker with the right product, and the right means of selling it.

WOMEN DO THE FAMILY SHOPPING:

	%
Women	64.1
Men	35.9

WHEN THEY SHOP:

(All Shoppers)	%
Monday	9.5
Tuesday	12.8
Wednesday	8.6
Thursday	15.0
Friday	26.9
Saturday	27.2

WHEN STORES ARE BUSIEST:

Monday	4 p.m. to 5 p.m.
Tuesday	
Wednesday	5 p.m. to 6 p.m.
Thursday	
Friday	7 p.m. to 1 p.m.
Saturday	11 a.m. to noon

MANY ARE "IMPULSE BUYERS":

(Miscellaneous items)	%
Planned purchases	60.9
Vaguely planned	6.1
Impulse purchases	33.0

BRAND NAMES HAVE STRONG EFFECT:

	%
Decided on brands beforehand	46.0
Not decided beforehand	54.0

WOMEN MAKE THE SUGGESTIONS:

(Who suggested purchase?):		%
Women	Self	93.9
	Husband	3.1
	Other	3.0
Men	Self	46.1
	Wife	47.0
	Other	6.9

Figures based on an independent survey of shoppers in food markets, but the general trends shown by the figures follow in other domestic fields.

Age, Sex—Where They Live:

Where Canadians live

	Population (,000)				
	1921	1931	1941	1951	1954
Newfoundland	...	...	...	361	398
Prince Edward Island	89	88	95	98	105
Nova Scotia	524	518	578	643	673
New Brunswick	388	408	457	516	547
Quebec	2,361	2,874	3,332	4,056	4,388
Ontario	2,934	3,432	3,788	4,598	5,046
Manitoba	610	700	730	776	828
Saskatchewan	757	922	896	832	878
Alberta	588	732	796	939	1,039
British Columbia	525	694	818	1,165	1,266
Yukon	4	4	5	9	10
Northwest Territories	8	8	12	16	17

It's a growing market

Year	Population (,000,000)
1871	3.7
1881	4.3
1891	4.3
1901	5.4
1911	7.2
1921	8.8
1931	10.4
1941	11.5
1951	14.0
1955	15.2
1960	*16.1*
1965	*18.0*
1970	*19.9*
1975	*21.8*
2000	*32.0*

Figures in italics unofficial estimates based on census statistics.

A well-balanced market, now and tomorrow

TODAY . . .

Age Group	% Men	% Women
0-4	12.5	12.3
5-9	10.5	10.3
10-14	8.4	8.3
15-19	7.3	7.3
20-24	7.4	7.5
25-29	7.7	8.1
30-34	7.2	7.7
35-39	7.0	7.1
40-44	6.3	6.3
45-49	5.5	5.2
50-54	4.8	4.6
56-59	4.0	4.0
60-64	3.5	3.4
65-69	3.1	2.9
70-74	2.3	2.3
75-79	1.4	1.4
80-84	0.7	0.8
85-89	0.2	0.3
90+	0.1	0.1

IN THE FUTURE . . .

—1961—	% All Canadians	—1971—	% All Canadians
0-14	33	0-14	32
15-19	8	15-19	9
20-44	33	20-44	33
45-59	15	45-59	15
60+	11	60+	11

Future figures unofficial estimates based on official figures.

New Wings for Canada

CANADA has been a flying nation almost as long as there have been aircraft to fly. But until a few years ago there was hardly an original Canadian design in the skies. The few small factories that existed simply turned out batches of foreign designs for the home market.

With the war, and the call to Canada to produce thousands of planes for the Allied cause, a giant industry grew up almost overnight.

In the postwar years there was the inevitable lull. Then production zoomed again. Aviation experts from many parts of the world attracted by the bright future of Canada joined the original staffs.

Between them they have built up an industry that has brought Canada to fifth place among the aircraft producers of the world. And the industry is still developing.

Projects in hand, such as the supersonic delta winged CF105 and a number of secret guided missiles, signpost the highway to new horizons of expansion and diversity.

A few companies dominate the scene — design and produce all but a handful of our aircraft. But each subcontracts to hundreds of smaller firms in every part of the country.

Here are achievements and plans of some major companies

Avro Aircraft

Expansion of manufacturing facilities, increased production and employment, additional investments in buildings and equipment, gave A. V. Roe Canada Ltd., of Malton, Ontario, its greatest year in 1954.

During 1954, Avro completed the initial Canadian government contract for the Mark 3 CF-100 long-range, all-weather, day and night interceptor. It substantially advanced a second contract for the Mark 4, began preliminary work on a third contract. The company completed production of more than 1,500 Orenda jet engines — powerplant for the CF-100 and the Canadair-built F-86 Sabre. New secret projects are also under way.

Toward the close of the year, A. V. Roe Ltd. announced a reconstitution by which it remained the parent holding company of a new group, similar in organization to the British Hawker Siddeley Group. The Aircraft Division of the parent company became Avro Aircraft Ltd., the Gas Turbine Division became Orenda Engines Ltd.

In the same move, a third company was purchased, Canadian Steel & Improvement Ltd. at nearby New Toronto. C.S.I. was formed by the Government in 1951 to go into the complicated and vital study of titanium and other alloys essential to the working of jet engines at high temperature.

The company has developed a number of turbine blades that are being used in Canada's newest and most powerful engines. If, as engineers there believe, they have the best answer to the problems of intense heat, C.S.I. may become a supplier of metals to the entire free world.

Canadair

In 1954, Canadair Ltd., Montreal, continued production of the Orenda Sabre V. The four wings of No. 1 Air Division in Europe have now been re-equipped with this outstanding fighter. The Sabre IIs, until recently in use by the RCAF, were reconditioned and sent to Greece and Turkey, with a year's supply of spares. Some technical assistance was also included in this Canadian Mutual Aid contribution to NATO.

A new Sabre model, the Mark VI, is now in production and, altogether, Canadair has produced more than 1,400 of the F-86s since its introduction to Canada. It is expected that the present F-86 Mark VI program will continue until a successor is selected by the RCAF.

The T-33 Silver Star jet trainer contract is proceeding, but is being slowly reduced to a maintenance rate of production. Canadair has now turned out more than 450 of this RCAF trainer.

Canadair is also at work on the largest aircraft ever built in Canada, the CL-28, a version of the Bristol Britannia, which has been redesigned to meet requirements of the RCAF for a long-range maritime reconnaissance aircraft. Engineering, tooling and manufacturing is proceeding according to schedule. The first CL-28 is due off the line in 1956. A transport version of this aircraft is now under consideration by the Royal Canadian Air Force.

A heavy program of guided missile research is under way.

De Havilland Aircraft of Canada

Over 500 D.H. Beavers, light transport aircraft designed and built by de Havilland Aircraft of Canada, Toronto, are now flying in 34 countries. Large contracts for them were placed by the USAF and U. S. Army, and they were used extensively in the Korean theatre of operations.

The Otter, a later and larger single-engined design to do the same sort of work as the Beaver, gives every indication of being equally successful. Already it is in service with the RCAF and in Norway. It is likely that the U. S. Army will place a large contract for the Otter.

Achievements of both these rugged transports, coupled with those of the Chipmunk trainer produced after the war, established de Havilland Canada as a thriving company able to operate independently of its British parent firm. In fact the Chipmunk was thought of so highly, hundreds of them were built in Britain under license for the RAF.

In common with the other firms, de Havilland is working on guided missiles. This year production will also begin on about 200 Grumman S2F-twin-engined antisubmarine aircraft for the Royal Canadian Navy and other NATO countries.

Canadian Car & Foundry

Known the world over as "Cancar," Canadian Car & Foundry Co., Fort William, Ontario, recently concluded a contract with the North American Aircraft Corp. which allowed it to manufacture and sell Harvard trainers and spares everywhere outside the U. S. A. Since many of these planes are still in use around the world, the supply of spare parts is a big business.

In addition, the Canadian Government has ordered a number of small, Beech-designed T34 two-seater trainers for the RCAF. A further contract has been signed with de Havilland to produce wings for the S2F aircraft.

Canadian Pratt & Whitney

Over 25 years, Canadian Pratt & Whitney Aircraft, Montreal, has produced a long series of piston engines for Canadian Aircraft. It is a subsidiary of the United Aircraft Corp. in the U. S.

At present Wasp engines are coming off the line for the DH Otter. A steady supply of spare parts is also produced for earlier engines in use in many parts of the world.

Production will soon start on the Wright Cyclone engines to power the S2Fs being built by de Havilland. It is planned soon to begin Canadian production of the J-57 engine used in many of America's fastest warplanes.

Rolls-Royce of Canada

Equipped for manufacture and assembly of jet engines, full overhaul, testing and manufacture of spare parts, Rolls-Royce of Canada, Ltd., Montreal, stepped up the tempo of its activities during 1954. In the fall, the first Canadian-produced Nene engine passed its type tests to RCAF requirements and a number are now ready for delivery.

A contract from the Department of National Defense calls for the manufacture of spare parts, and the overhaul of the engines, and considerable work has already been carried out in this direction.

The purchase by Trans-Canada Air Lines of 22 Vickers Viscount airliners powered by four Rolls-Royce Dart turbine propeller engines, means more work for Rolls-Royce of Canada in providing technical assistance, as well as carrying a large stock of spares. The purchase of 60 Viscounts by Capital Airlines in the U. S. — the first due early in 1955 — will bring more engine maintenance.

Bristol Aeroplane

Started as a subsidiary of the British parent firm to handle sales and service of Bristol aircraft and engines in Canada, Bristol Aeroplane Co. of Canada, Montreal, has grown to play a leading part in the native aviation field.

During 1954 it bought MacDonald Bros. Aircraft Ltd. in Winnipeg, set the plant to producing dual-controlled CF-100 trainers under license from Avro Aircraft. In addition, Bristol-owned plants across Canada service hundreds of aircraft and engines every year.

A radio and electronic section recently established now services much of the RCAF's equipment.

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Moving the Goods to Market

The Big Business of Transportation in Canada

FEW THINGS are more vital to Canada's continued growth than the steady expansion and improvement of her transportation facilities.

Goods must be moved to market as quickly and cheaply as possible. Thus, particularly in a country as widespread as Canada, the railways, highways, airlines and waterways take on added significance.

Each competes—at least to some extent — with all the others. That means vigorous, healthy competition.

But each, too, has particular fields in which its advantages are very strong. Waterways, including the already-famous St. Lawrence Seaway, are covered elsewhere in this issue.

Let's look at the others:

Railroads:

Railroads which still move the great bulk of Canadian traffic, have been engaged recently in their greatest building boom since the late 1800s.

All together, Canada now has 47,000 miles of railway track operated by 24 railroads. Most of this is owned by either Canadian National or Canadian Pacific.

Canadian National — the government - owned system — counts some 25,000 miles in its system; privately - owned Canadian Pacific has over 20,000 miles. Both operate from coast to coast, and each is also a giant in other forms of transportation.

CNR owns Trans-Canada Air Lines, has three fleets of ocean-going steamships and car ferries, operates bus and trucking services, has its own express and telecommunications facilities. CPR owns Canadian Pacific Air Lines, ocean freight and passenger ships, lake vessels, telegraph and express services, etc.

$285 Million Projects

Projects recently completed or now under way cost a total of over $285 millions, adding 1,197 new miles of track to Canada's rail network.

There is sound reason for this boom in railroad construction. Where there are good highways, trucks offer stiff competition and limit rail growth. But on the outskirts of Canada's economic frontier only the railroad provides reliable, year-round, low-cost transportation.

Some locations, such as Lynn Lake in Northern Manitoba, can be made accessible only by rail. The only other heavy-duty means of transportation to Lynn Lake is by sleigh, hauled by tractors over the frozen rivers and muskeg.

In the summer of 1954, the biggest railroad construction job in Canada for many years was finished. This is the 360-mile line from the St. Lawrence River port of Seven Islands into huge iron ore deposits in Northern Quebec and Labrador. Seven trains a day run over the line during an operating season of 180 days a year. In 1955, six million tons of ore are expected to move down this railway, in 1956 10 million, and after the St. Lawrence Seaway is finished, 20 million a year. It is owned by Iron Ore Co. of Canada.

Links for New Mines

The line into Lynn Lake, finished in 1953, was built by Canadian National Railways. It runs for 155 miles, brings

(Continued on page 19)

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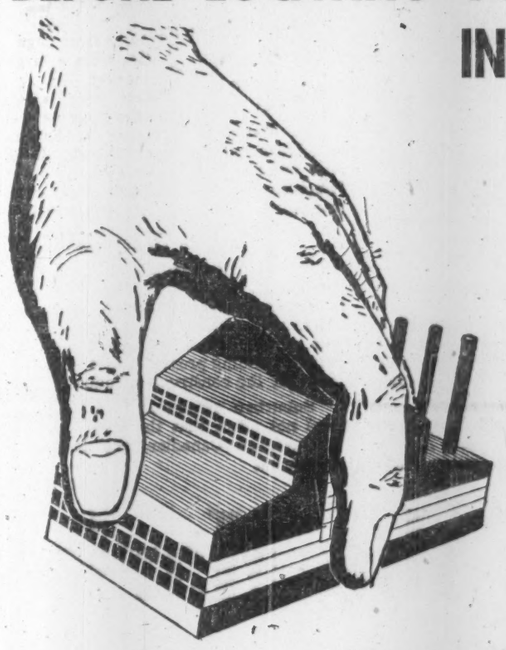

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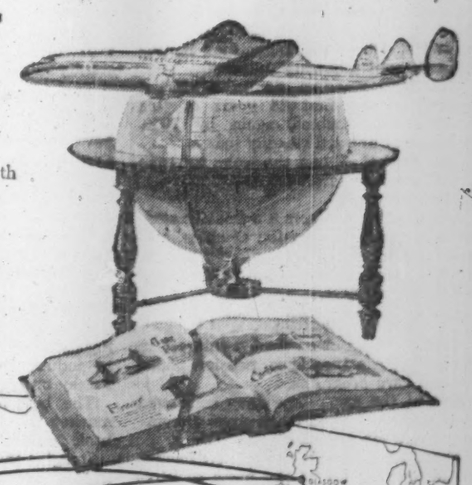
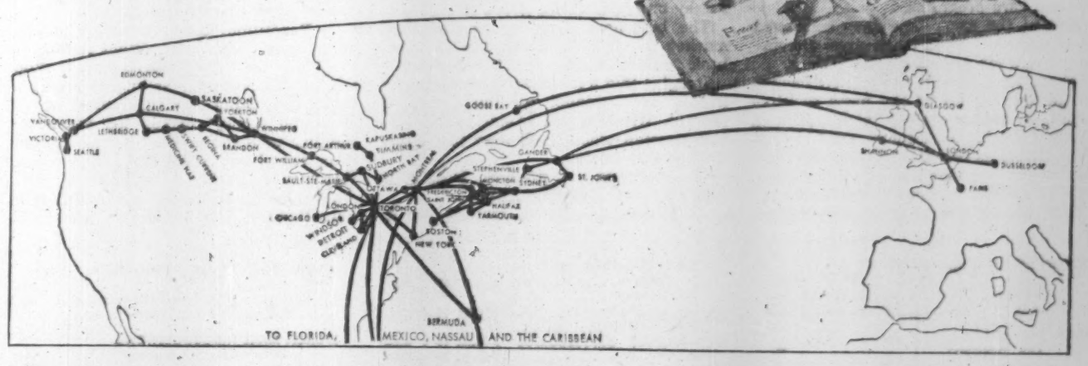
In 1954, magnificent new TCA SUPER Constellations — flying both trans-Atlantic and transcontinental routes — opened a new era in air travel for Canadians. Early this year, TCA's new swift-flying Viscounts — first propeller-turbine airliners in North American skies — will begin serving over-the-border and Canadian inter-city routes.

They are all part of TCA's never-ending programme of planned development in the service of Canadians.





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The Seaway: New Route to Heart of a Continent

And It Raises Some Problems For the Canadian Industry

CANADA is not a seafaring nation, but few other 15 million people in the world are so dependent on seaborne trade. Terminals of the country's main highways and railroad tracks are marked by angular silhouettes of merchant ships.

Most industrialized countries when considering the disposal of exportable surpluses, regard the problem as secondary to the vitality of the domestic market. In Canada's case, the prosperity of mines, forests, and factories is inseparably interwoven with foreign commerce. During 1954, over $2,000 million worth of goods were brought to Canada by ship.

Over 75 million tons of ocean shipping entered or cleared Canadian ports during the year, carrying about 40 million tons of cargo. Some 60% of Canada's export trade and 40% of the country's import trade moves by water.

Despite this heavy dependence on the world's sea lanes and a 40,200-mile sea coast bordering on three great oceans, Canada does not have a large merchant marine of her own. Because the operation of a ship flying the Canadian ensign costs approximately $11,400 a month in labor expenses alone, Canadian shipowners have found it impossible to compete in international trade. (This sample expense figure is exactly twice the monthly labor costs of operating a ship under United Kingdom registry.) The Canadian Government does not subsidize deep-sea shipping in any way.

There are today only a few deep-sea cargo ships remaining under the scarlet Canadian Maritime ensign. Some 100 Canadian ships, however, have been transferred to British registry and theoretically these would be available to Canada, in case of war.

More important to the Canadian economy is the 120-unit fleet of Canadian-owned lake ships which ply between Montreal and the Great Lakes area through an intricate system of shallow canals. Cargoes of wheat, coal, iron ore, lumber, limestone, etc., move through these 14-foot canals in 600-ft. vessels hundreds of miles into the country's rich interior. In 1954 these "lakers" carried about ten million tons of cargo.

It is in this traffic that great changes are expected to take place, once the St. Lawrence deep waterway has been opened — by 1960.

European small-ship pioneers have been exploring the commercial potential of the St. Lawrence since before the war. The small ships that now trade inside Canada are doing a very good, specialized business and preparing for the day when the canals have been widened and deepened, and their larger sister ships can come in.

During 1954 over 100 of these vessels made about 235 voyages into the lakes handling close to 700,000 tons of freight. That is a significant increase from 1952, when 35 ships handled about 300,000 tons of cargo.

Building of the St. Lawrence Seaway will mean important freight savings for Canadian importers. The present channel limits cargo-carrying capacity to about 1,300 tons; the new seaway will permit loads of 8,000 tons or more. While the new ships will have five times the capacity, they won't cost even twice as much to operate.

It has been estimated that even in the initial year of the seaway operations some $48 millions will be saved in transportation costs on the potential traffic. Because the new seaway ships will have to go through only seven locks instead of the present 20, vessels will move faster. The boosted traffic will also mean more frequent sailings, another time saver.

Shipping Law Campaign

Under existing Canadian legislation, ships of any registry can trade between Canadian and U. S. ports and ships of British registry may do business between Canadian ports. Canadian interests are now campaigning to have this law changed to allow only Canadian-built and Canadian-registered vessels to trade between any two Canadian ports. A Royal Commission will likely be appointed in the near future to study this question.

If this commission agrees with the shipbuilders, it would help maintain the level of employment in Canadian shipyards. Today, Canada's shipyards, with one or two exceptions, operate largely as repair yards outside of government contracts.

Canada has 15 major shipbuilding yards, with three on the Pacific coast, five inside the Great Lakes, four on the St. Lawrence River near Montreal and three on the Atlantic coast. These yards normally employ about 17,000 and have annual earnings of $200 millions.

The Canadian shipbuilding industry depends very heavily on subcontractors and only about 35% of the cost of a merchant ship is actually expended inside the yard. This means that another estimated 75,000 workers employed in allied industries are to some extent dependent on shipbuilding.

Because they cannot economically compete in world markets — largely due to higher labor costs — Canadian shipyards since the war have been steadily diversifying their facilities. Most yards now also act as industrial engineers and many have diversified even further, producing such items as television cabinets, railway freight cars and oil refinery equipment.

While many aspects of the construction of the St. Lawrence deep waterways are not yet clear, it is certain that Canada's maritime industries will be heavily affected.

The 27-ft. navigation channels into the heart of industrial Canada will cost $175 millions. Estimates of traffic potential range from 44.5 million short tons to 83 million short tons, but much will depend on the size of ships and speed with which they can be put through locks. A large proportion of this movement will be the carrying of iron ore from Labrador to the inland steel mills.

Develop Electric Power

Along with the navigation phase of the project an estimated $350 millions will be spent to develop 2.2 million hp of power along the waterway, one half the power going to Ontario, one half to New York State.

One interesting phase of the seaway construction is that a lake of 80 sq. miles, 35 miles long, will be created, flooding 10,000 acres mostly on the Canadian side of the river.

Some $100 millions will be spent to rehabilitate the communities and industry in this flooded section. The plan is for a 30-mile strip along the waterfront — two miles deep containing four new model communities. Industrial sites have been planned close to the docks on the new seaway and new scenic drives and parks are also to be built.

Already, the so-called "Seaway Valley" is being compared to the Ruhr in West Germany. Many new industries are considering the district, including manufacturers of steel, pulp and paper, plastics, chemicals, light metals and food processors.

Preliminary Canadian Government estimates of seaway traffic now range around 50 million tons a year. This includes 10 million tons of grain and grain products; four million tons of coal; two million tons of paper, pulpwood and wood pulp; one million tons of petroleum and its products and about eight million tons of miscellaneous cargo. The balance of over 20 million tons is being attributed to the shipment of iron ore from Labrador to inland steel mills.

It is predicted that traffic which will flow through the new seaway during the eight-month-long navigation season will be considerably more than all the tonnage passed through the Panama, Suez, Manchester and Kiel canals put together during any 12-month period. The iron ore transport is a very necessary feature of the waterway, as the mills within reach of the Great Lakes area produce about 80% of all the steel now made in the U. S. and Canada.

Aside from its important economic consideration, the new St. Lawrence Seaway will make at least a five-fold contribution to North American defense in any future war:

—It will create a reserve power capacity in the industrial heart of North America.

—The combination of power and navigation will stimulate industrial growth, giving greater capacity for specialized production when needed.

—The Seaway will also permit all but the largest ocean vessels to be built to travel inland 1,000 miles from the sea, adding flexibility and dispersal to the building and repairing of the all-important merchant fleet of the free world.

—It will provide an alternative transportation route to the railways, which are always hard-pressed in wartime.

—It will provide assurance of adequate supplies of iron ore to feed the steel furnaces on the Great Lakes.

Approximately 15,000 men will be employed in seaway construction during the next five years. Material estimates for the complete project suggest 7,630,000 barrels of cement, 70,000 tons of reinforcing steel and 109,000 tons of structural steel. Tolls to be charged shipping using the new waterways have not yet been set, but it is expected that the period of amortization of the investment will not exceed 50 years.

Moving the Goods to Market

(Continued from page 18)

base metals from a large new mine to market.

Late last year, a 43-mile line into the huge new aluminum smelter at Kitimat, in Northern British Columbia, was completed by CNR. It runs through some 2,500 million ft. of virgin timber, was also built by Canadian National.

Canadian Pacific Railway is building a line 40 miles long to connect with a rich new base-metal mining area discovered near Geraldton in Northern Ontario. Canadian National has a 27-mile link under way into the same district, and both systems think that enough traffic will develop to warrant the two new lines.

Airways:

Mention of Trans-Canada Air Lines (TCA) and Canadian Pacific Air Lines (CPA) brings up one of the fastest growing arms of Canada's transportation industry — an arm which is of particular and growing interest to travelers from other countries.

In April, for instance, TCA will inaugurate the first turboprop airliner service in North America. It is paying $16 millions for 22 British-made Vickers Viscount aircraft, which seat 40 passengers and cruise at 320 miles per hour. The Viscounts will serve New York (both from Toronto and Montreal), Chicago, Cleveland, Windsor-Detroit, Ottawa, Sault Ste. Marie, the head of the Great Lakes, and Winnipeg. In 1956, TCA plans to add to its turboprop service Regina and Saskatoon, Saskatchewan, and Calgary and Edmonton, Alberta; later on, Vancouver, British Columbia.

In 1954, TCA placed eight new U. S.-built Lockheed Super-Constellations in service. Costing $14.4 millions, these aircraft are flying both the trans-Atlantic and trans-Canada routes, complementing the shorter-range, intercity Viscounts.

Polar Route To Europe

CPA is smaller than TCA but growing very fast. Recently, for instance, it received permission from the Canadian Government to fly an intercontinental polar route to connect Europe with North America. This flight would move in a great circle over Canada's Northwest Territories, Greenland and Iceland. The route is 1,000 miles shorter than the most direct route from Western Canada via Montreal, and at no time would an airliner be more than 90 minutes from an airport. Flying time is estimated at 17 hours using U. S.-built Douglas DC-6B aircraft. The service is scheduled to start in May.

Scandinavian Airlines already has inaugurated a polar flight between Los Angeles and Copenhagen, on a twice-weekly basis. It was the certification of SAS which spurred CPA to renew efforts to start a polar service. If the polar route is approved, CPA may order some long-range DC-7 aircraft, slightly larger than the DC-6B.

CPA was formed in 1942, by the amalgamation of 10 independent northern freighting lines, and is now Canada's second biggest airline. Its flights extend from Vancouver to the Orient, Australia and South America. It has no trans-Canada or European flights at present, but plays an important role in connecting much of Canada's vast northland with the main routes operated by TCA.

Just how fast air service in Canada is growing is shown in TCA's 1954 figures. Last year, TCA carried 1.4 million passengers, compared with 1.3 million in 1953 and only 300,000 as recently as 1946. Air freight ton miles in 1954 rose by 35% from 1953, air express ton miles showed an increase of 10%, mail transport volume grew by 38%.

By the end of the year, TCA had grown to a route pattern of 22,000 miles serving 33 communities in Canada and the United States. That compared with one 122-mile route, between Vancouver and Seattle, 17 years ago when the airline began operations.

Highways:

Supplementing rail, air and water transportation facilities is a vast network of highways, over which fleets of large transport trucks distribute nearly every type of merchandise except low-value bulk cargoes such as grain, coal, etc. The highway transport business is a fast-growing one in Canada, and every year new volume records are set.

One of the newest phases of it is long-distance, transcontinental hauling. Five years ago, there was practically no east-west Canadian movement of goods by truck. Now more than 25 different firms operate between Ontario and eastern and western provinces, although there is no paved, year-round trans-Canada highway.

Advantages which the truckers claim over the railways on this business: less handling of goods, all-inclusive, door-to-door rates.

Biggest recent event in the trucking business was the Federal Government's decision to leave responsibility for control of all international and interprovincial transport with the 10 Provincial Governments. Federal authorities retain jurisdiction, but transfer responsibility for control to the provinces.

Until this move, the lack of regulation permitted scores of unlicensed carriers to enter the field. Now this problem will be corrected.

Factors In Growth

Rapid growth of highway transportation in Canada results from a combination of factors. Fast, door-to-door delivery, made possible by the flexibility of the motor vehicle, is one. Another is the railway rate structure, designed to encourage widest possible movement of staple commodities at low rates, thus requiring correspondingly higher charges on high-grade traffic of secondary industries where truck competition is felt most.

Not all trucks compete with rail and other carriers, of course. Canadian truck registration now totals about 800,000 vehicles, of which only about 18%-20% are engaged in competitive intercity highway operations. Nearly 33% are farm trucks, not normally considered competitive at all.

But it is this 18%-20% which includes the real growth end of the trucking business, an end which causes greatest worry to other types of carriers.

Sure to give added impetus to truck business is the Trans-Canada Highway, now under construction. Expected to cost well over $300 millions it will be completed perhaps by 1960, it will give Canada an excellent paved road from Newfoundland on the East to the Pacific coast, supplementing existing routes. Costs are being shared by the Federal and Provincial Governments, and every province except Quebec is participating.

But the Trans-Canada Highway is only part of Canada's road building program. Over $400 millions a year is being spent across the country on roads.

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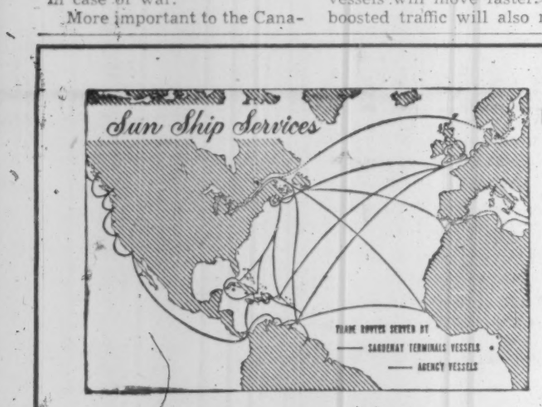

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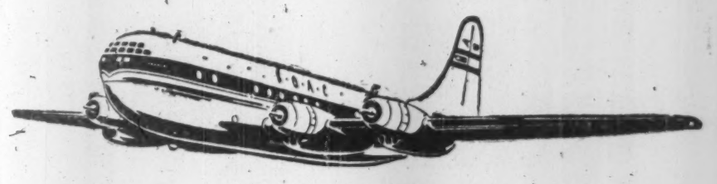

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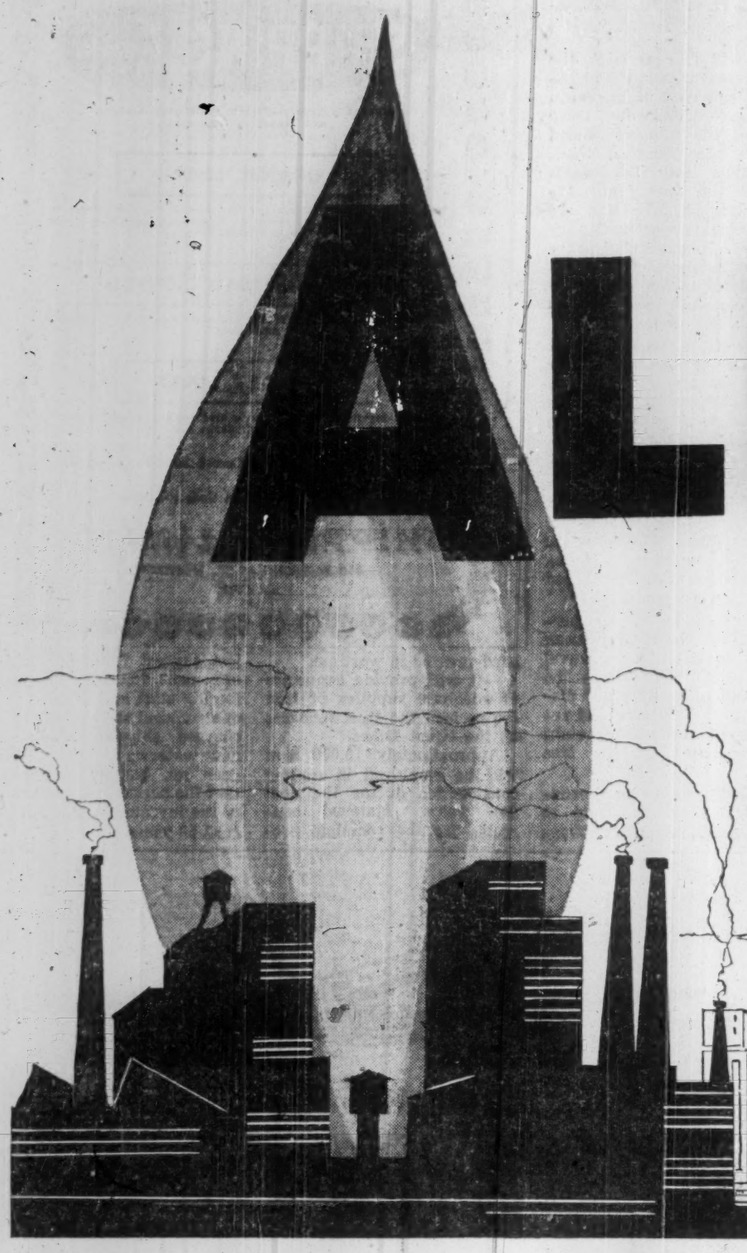
EXPRESS

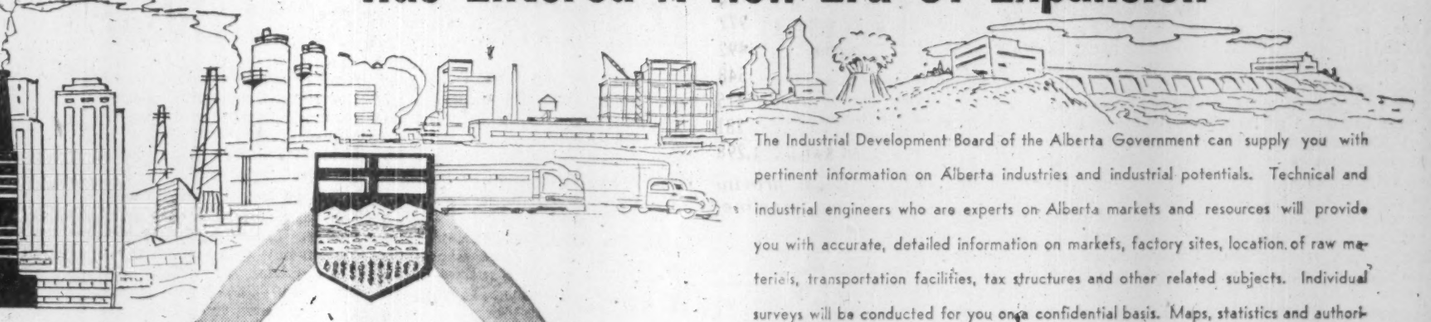
Merchandise or personal effects, dependable Canadian Pacific Express assures safe, economical shipment and speedy delivery throughout Canada. Also travellers cheques, money orders and foreign remittance service.



ALBERTA

The Gas and Oil Producing Province of Canada

Has Entered A New Era Of Expansion



The Industrial Development Board of the Alberta Government can supply you with pertinent information on Alberta industries and industrial potentials. Technical and industrial engineers who are experts on Alberta markets and resources will provide you with accurate, detailed information on markets, factory sites, location of raw materials, transportation facilities, tax structures and other related subjects. Individual surveys will be conducted for you on a confidential basis. Maps, statistics and authoritative literature are available on request.

8 MODERN CITIES

Business executives and industrialists will recognize the tremendous scope for industrial development and expansion offered by Alberta's eight modern cities. Serving as marketing centres for the products of Alberta's fields and forests and her ever-increasing number of manufacturing plants, these centres typify the new era of development and progress that distinguishes Alberta today.

INQUIRIES

The Alberta Government welcomes your inquiries. Full information compiled by competent and interested specialists will be sent to you on request. Direct your inquiries to:

RICHARD MARTLAND,
Director Industrial Development Branch,
Legislative Bldg., Edmonton, Alberta, Canada.

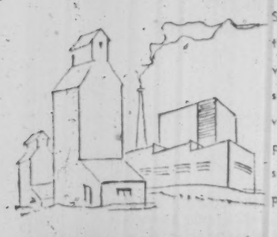
Inquiries from the United Kingdom and Europe may be directed to:

R. A. McMULLEN, Agent General,
Alberta House, 37 Hill Street,
London W.1., England.

EDMONTON

Rising star in the petro-chemical firmament . . . . centre of North America's most fabulous oil and natural gas developments . . . gateway to the scarcely tapped mineral wealth of the North . . . legislative capital of Alberta . . . heart of a prosperous, long-established agricultural area . . . hub of air, rail and highway transportation facilities. Edmonton, Canada's fastest growing city, is the answer to your problem of industrial location. For full particulars write: City Industrial Commissioner, Civic Block, Edmonton.

LETHBRIDGE

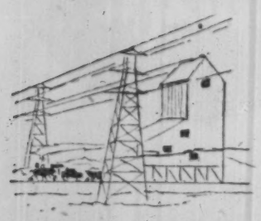


Serving the "food basket of the West", rich green acres recovered through the miracle of irrigation . . . gateway to Alberta's U.S. markets via air, rail and highway transportation. Lethbridge, with unlimited reserves of coal and wet natural gas, is already the location for a wide variety of established industries including sugar refineries and vegetable processing plants. Further industrial expansion is assured, promising a sound economic future for industries planning new locations. Write for particulars: Industrial Representative, S. R. Lamb, Lethbridge.

DRUMHELLER

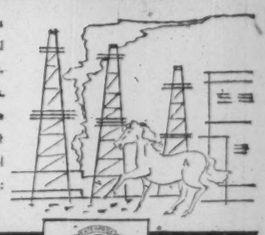
Offers diversified opportunities to industry. Principal activity is coal mining, fortified by abundant reserves of oil, natural gas, bentonite, sand and gravel, clays, and the products of the surrounding mixed farming district. Choice locations available, served by trackage, electric power, natural gas and plentiful supplies of water. Inquire from: Industrial Representative, J. L. Kergan, Drumheller.

CAMROSE



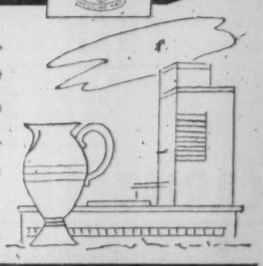
Alberta's newest city . . . expanding commercial centre within the central area of the province. Served by a prosperous, established agricultural area . . . offers abundant supplies of natural gas and electricity, with developed coal and oil fields surrounding the city. Two railroads, with five additional branch lines, and modern highways provide access to principal marketing centres in the province. Get all facts from: Industrial Representative, Camrose.

CALGARY



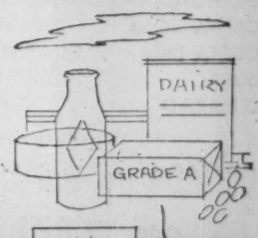
World famous as the home of the Calgary Stampede . . . in the foothills of the Canadian Rockies . . . . business centre for Western Canada's oil industry . . . surrounded by the greatest ranching country in the dominion. Calgary has two industrial parks—fully serviced—each of over 200 acres. The city also owns other fully-serviced industrial sites, as well as large parcels up to 500 acres that can be developed with ease. Excellent transportation facilities connect with all points in North America . . . fuel and power rates are among the lowest in the country. Address inquiries: Co-Ordinator of Industrial Development, City of Calgary.

MEDICINE HAT



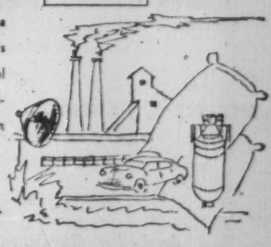
Blessed with one of the largest reserves of natural gas in North America, Medicine Hat provides the elementary requirement of industry—low cost fuel and power. One of the busiest manufacturing cities of its size in Canada . . . widely recognized for its ceramics and pottery industry . . . served by rail, air and highway transport facilities. Write for information: Industrial Representative, R. H. Lacey, Medicine Hat.

WETASKIWIN



Important commercial and distributing centre for rich mixed farming district . . . abundantly supplied with natural gas and electric power . . . accessible to markets north, east, south and west through main line rail and highway services. Trackage sites available for large or small industries. Write: Industrial Representative, N. A. McEachern, Wetaskiwin.

RED DEER



Another key area in Canada's newest industrial province . . . centre of a rich mixed farming district . . . adjacent to developed oil and coal deposits . . . site of western Canada parts distribution centre for international automotive corporation and many other companies. Natural gas, electricity, water and sewage facilities established. Located midway between Edmonton and Calgary on a network of highways and both railways. For particulars write:

E. F. Krauss, Secretary Red Deer Chamber of Commerce.

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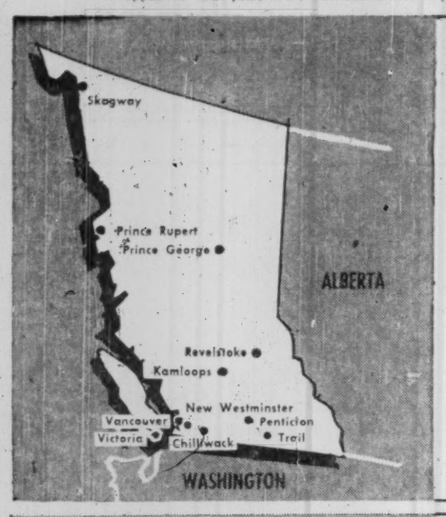
THE GOVERNMENT OF THE PROVINCE OF ALBERTA

How, Where Provinces Are Surging Ahead

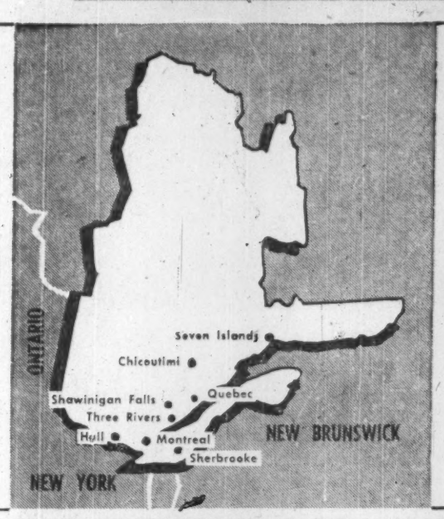
Figures are for 1953 except for Net Production (1952). These are latest years for which complete comparative statistics are available. Figures may in some cases appear for later years in the individual stories on provinces in the following pages.



British Columbia

	$ Mill.	% of national total	% increase since 1949
Production (Net)	1,239.6	9.1	+47.5
Personal Income	1,815	10.0	+47.9
Retail Sales	1,225.2	10.1	+30.3
Farm Cash Income	103.4	3.8	+2.1
Manufacturing	1,384.5	7.8	+44.3
Construction	163.5	8.1	+105.9
Mining	161.3	11.1	+18.3
Power (Million Kwh.)	5,226	8.0	+148.2

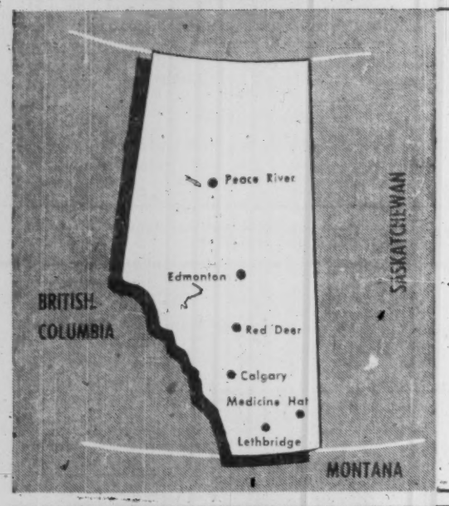
Growth highlights: aluminum, power, metallurgy; oil pipeline built; natural gas line, further industrialization to come.



Quebec

	$ Mill.	% of national total	% increase since 1949
Production (Net)	3,603.8	26.3	+43.0
Personal Income	4,430	24.5	+42.6
Retail Sales	2,784.6	23.0	+47.3
Farm Cash Income	387.1	14.1	+12.4
Manufacturing	5,370.3	30.2	+41.8
Construction	539.8	26.8	+51.9
Mining	275.1	18.9	+66.7
Power (Million Kwh.)	33,950	51.8	+33.0

Major base metals finds, new mines, mills, asbestos growth; hydro power construction; Ungava iron.



Alberta

	$ Mill.	% of national total	% increase since 1949
Production (Net)	1,060.8	7.7	+59.2
Personal Income	1,286	7.1	+43.5
Retail Sales	972.7	8.0	+44.5
Farm Cash Income	492.1	17.9	+8.8
Manufacturing	548.3	3.1	+47.4
Construction	215.0	10.7	+105.9
Mining	281.5	19.4	+147.5
Power (Million Kwh.)	1,298	2.0	+62.1

The big oil, gas province; petrochemicals; new markets, new pipeline outlets for crude and natural gas.

New Brunswick

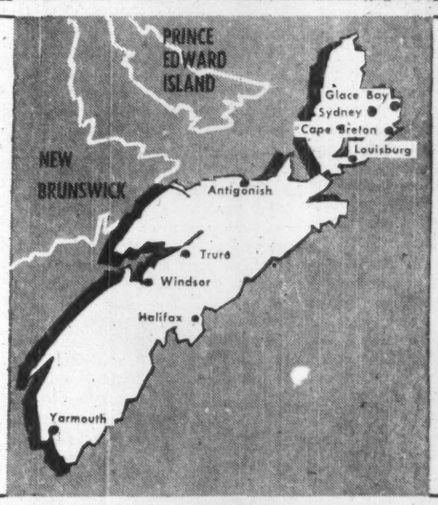
	$ Mill.	% of national total	% increase since 1949
Production (Net)	266.2	1.9	+29.1
Personal Income	406	2.2	+28.9
Retail Sales	320.6	2.7	+34.2
Farm Cash Income	46.0	1.5	+7.5
Manufacturing	294.8	1.7	+27.3
Construction	28.6	1.4	+46.7
Mining	12.5	0.9	+76.0
Power (Million Kwh.)	747	1.1	+14.7

Major base metals discoveries, metallurgical developments; more home processing of farm products; improved fisheries.

Saskatchewan

	$ Mill.	% of national total	% increase since 1949
Production (Net.)	967.6	7.1	+58.2
Personal Income	1,101	6.1	+32.3
Retail Sales	817.2	6.8	+57.3
Farm Cash Income	744.1	27.1	+31.4
Manufacturing	265.5	1.5	+23.1
Construction	75.7	3.8	+74.8
Mining	57.0	3.9	+57.8
Power (Million Kwh.)	1,168	1.8	+36.1

Oil, gas riches below the "top six inches"; development of industrial minerals; major uranium discoveries, development.



Nova Scotia

	$ Mill.	% of national total	% increase since 1949
Production (Net)	315.6	2.3	+22.4
Personal Income	594	3.3	+32.3
Retail Sales	441.9	3.7	+34.1
Farm Cash Income	40.6	1.5	+15.0
Manufacturing	324.8	1.8	+31.2
Construction	54.4	2.7	+60.5
Mining	75.1	5.1	+33.9
Power (Million Kwh.)	1,039	1.6	+44.8

Blanket probe for minerals; big oil refinery growth; gypsum, steel, coal developments; fisheries modernization.

Manitoba

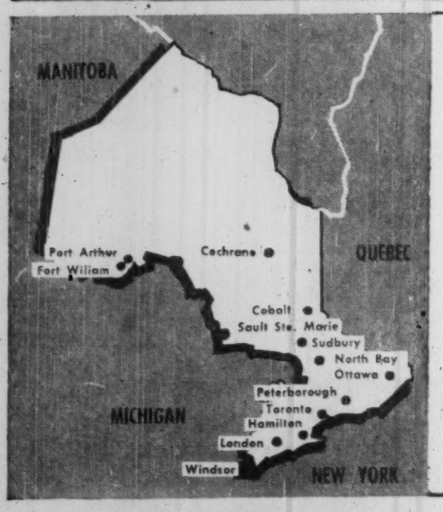
	$ Mill.	% of national total	% increase since 1949
Production (Net)	580.6	4.2	+25.8
Personal Income	921	5.1	+25.1
Retail Sales	674.9	5.6	+21.3
Farm Cash Income	214.4	7.8	—12.6
Manufacturing	583.3	3.3	+22.9
Construction	80.5	4.0	+2.5
Mining	35.0	2.4	+46.8
Power (Million Kwh.)	2,791	4.3	+29.2

Expansion, diversification of industry; new mines; stepped up search and discovery of oil.

Prince Edward Island

	$ Mill.	% of national total	% increase since 1949
Production (Net)	41.7	0.3	+51.6
Personal Income	67	0.4	+31.4
Retail Sales	60.1	0.5	+32.4
Farm Cash Income	22.4	0.8	+8.2
Manufacturing	23.0	0.1	+27.1
Construction	1.3	0.1	—71.1
Power (Million Kwh.)	31	..	24.0

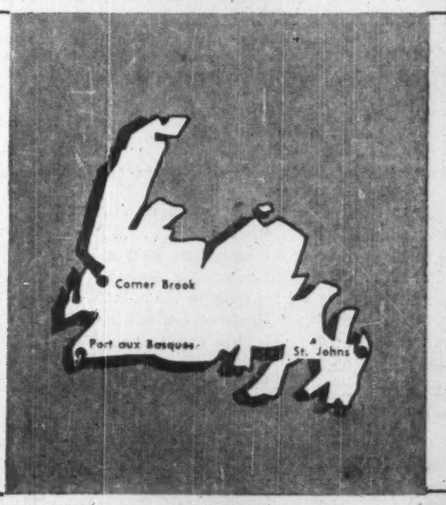
Doorstep fisheries modernization and expansion; processing of specialized agricultural products.



Ontario

	$ Mill.	% of national total	% increase since 1949
Production (Net)	5,462.4	39.9	+36.3
Personal Income	7,175	39.6	+44.9
Retail Sales	4,616.0	38.2	+42.7
Farm Cash Income	692.7	25.3	+2.1
Manufacturing	8,868.4	49.9	+45.3
Construction	849.8	42.1	+101.8
Mining	485.0	33.4	+49.9
Power (Million Kwh.)	19,025	29.1	+68.0

Heightened industrial activity; big mine finds; natural gas, St. Lawrence Seaway-power to come.

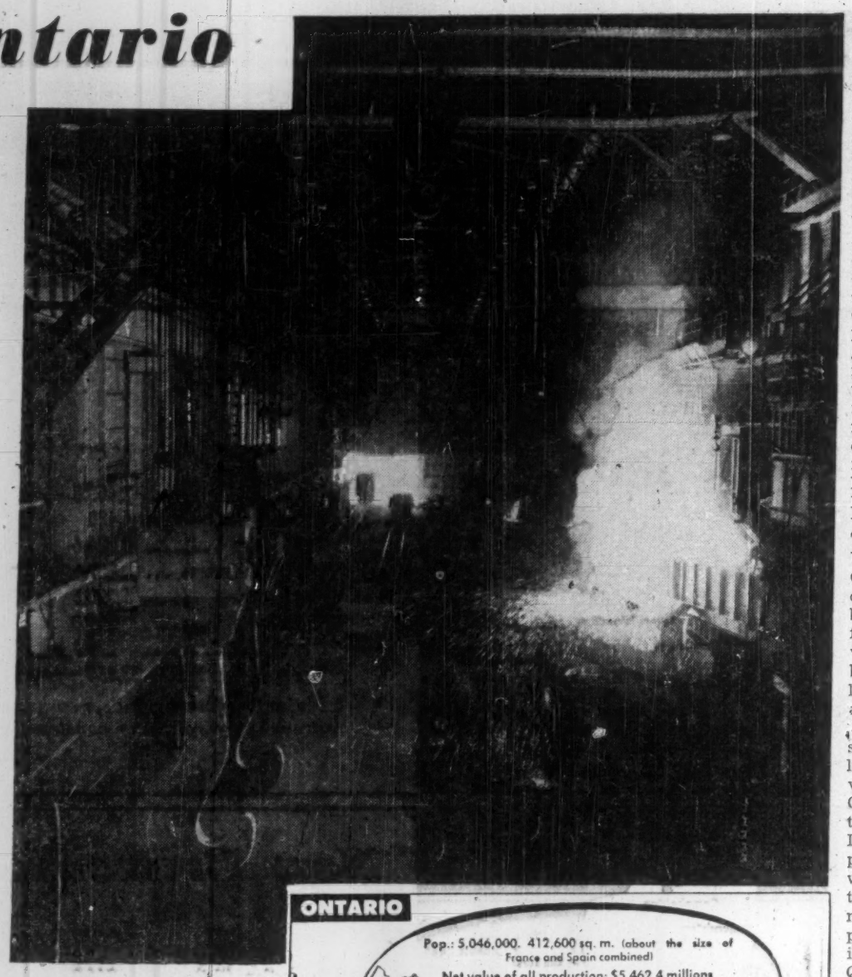


Newfoundland

	$ Mill.	% of national total	% increase since 1949
Production (Net)	150.0	1.1	+100.2
Personal Income	249	1.4	+52.8
Retail Sales	179.4	1.5	.....
Manufacturing	106.5	0.6	+58.2
Construction	8.5	0.4	+88.9
Mining	44.9	3.1	+62.7
Power (Million Kwh.)	213	0.3	+6.2

Growth highlights: Fisheries modernization; new industrial base; drive on forest, water, mine resources.

Ontario



IT IS ESTIMATED there will be at least 10 new stainless steel fabricating plants established in Ontario alone within the next two or three years."

F. J. Lyle, director of Ontario's Trade and Industry Branch of the Department of Planning and Development, said this recently to a group of United States industrialists.

He was talking about Ontario's fabulous industrial growth, about the clearly defined future of one of the world's newest and fastest-growing manufacturing nuclei.

Ten new plants in such a short space of time in any single, specialized industry is impressive. But it appears modest beside this backdrop: in the postwar era to date some 650 new industries have established in Ontario, originating from Canada, the United States, United Kingdom, West Germany and other European countries in that order.

New investment in manufacturing facilities in the province is now running at close to $450 millions a year.

Ontario, in terms of total output, is Canada's richest province. It produces nearly half the nation's manufactured goods. It contains a third of Canada's total population who account for more than a third of total retail sales. Its farmers receive one quarter of Canada's total farm income; its mines turn out some 35% of all mining production.

The riches of a rich nation pour into the spreading, diversifying industrial belt in Southern Ontario — often to tap Canada's biggest concentrated domestic market, more often for further processing before continuing on to markets throughout the world.

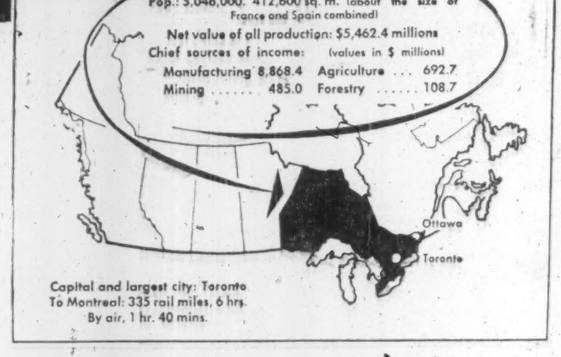
But even while Ontario is already the mainspring of manufacturing Canada, its place under the international sun is still being shaped.

HON. LESLIE FROST,
Premier

When F. J. Lyle talked about the expected stainless steel plants, he was illustrating Ontario's entry into what he calls the fourth stage of development; complete fabrication of products before marketing.

That is what is taking place in Ontario right now. In this virile and dynamic process lies opportunity for prospective new industry from many lands. In this direction, the province is finding its true destiny.

If you count importation of consumer goods as the first stage, assembling as the second, processing and semi-manufacturing of raw materials as the third stage, then Ontario is clearly emerging into the fourth and final stage as a full-blossomed industrial heartland.



Here is the kind of thing that is happening.

Atlas Steels Ltd. has just completed a $12-million expansion program which has boosted Welland, Ont., plant capacities to 500 tons of continuous stainless steel strip and 130,000 ft. of welded stainless steel tubing a month, in addition to stainless steel sheet, bar, rod and wire.

In its drive on production costs, Atlas has attracted the eyes of steel men from all over the world. The company has installed North America's first continuous casting steel plant. It means a major step forward in the North American steel industry. And for secondary industry in Ontario it means—together with Atlas' overall expansion program—an assured, bigger supply of competitively priced stainless steel for further processing.

F. J. LYLE,
Trade and Industry Director

At present, Canada's per capita use of stainless steel is one half that of the United States, points out Mr. Lyle. This gap then is an immediate and latent area for new industry.

Steelmaking capacity of Ontario's three basic integrated steel mills has been boosted by some one million tons in expansion programs totaling $120 millions. This gives Dominion Foundries & Steel Corp. and Steel Co. of Canada, at Hamilton, and Algoma Steel Corp., Sault Ste. Marie, a combined capacity of over four million tons of steel a year, establishing a new hard core for Ontario — and Canadian — industry.

The basic steel-processing end product story is typical, but only part of the exciting story of the transformation of Ontario into a new manufacturing force at the conference of nations.

Sarnia, Ont., has emerged as Canada's "chemical valley." More than $100 millions in new plant and expansion has gone into this area in recent years in oil refineries and petrochemicals. A "tap" has been built from Sarnia directly to Western Canada's burgeoning crude oil fields — a 1,770-mile, 30-inch underground pipeline.

Though there are take-offs along the route, Sarnia is the small end of this "funnel" which is capable of bringing 300,000 barrels a day of Canadian crude to Chemical Valley's doorstep.

Ontario's operating refinery capacity now stands at 150,000 barrels a day; 115,000 of it at Sarnia. Development of the petrochemical industry has made the Ontario plastics industry one of the fastest-growing of all industries. It's estimated the plastics industry, young and still growing, has expanded by 500% in the past decade.

Two of the brightest stars in the Ontario firmament are yet to come: the St. Lawrence Seaway and Power Development and a natural gas pipeline from the West.

Natural gas supply, marketing and financing plans for the $350-$400-million gas pipeline — it will be the world's longest — are now being completed. Meanwhile Toronto is getting used to natural gas which is already replacing its former manufactured variety by means of a pipeline network leading all the way down to Texas in the United States. Once the Canadian pipeline is built, deliveries from the U.S. will cease, but the Canadian line will find a ready and waiting market.

HON. W. K. WARRENDER,
Planning and Development

The Seaway, now under construction, will provide an inland waterway for ocean-going vessels up to the head of the Great Lakes — to the heart of the North American continent. It will mean cheaper transportation to the ports of the world for Ontario's manufactured goods as well as commodities. Many of the ships plying inland will be carrying iron ore from the fabulous Quebec-Labrador fields. Others will bring the goods of many lands to the fat Canadian and United States markets. For their return trips they will be anxious to find cargoes in addition to wheat.

More Power For Industry

But the Seaway is a double-barreled development. Accompanying the waterway is an international hydro-electric power project to put the St. Lawrence River rapids to work for both New York State and Ontario. From it the two will split 2.2 million hydro-electric horsepower — or Ontario will get another 1.1 million hp. for growing homes and industry.

Ontario's power resources are exceeded only by those of Quebec and British Columbia. It has developed about 50% of its potential and ranks second to Quebec in total power production. Completion of the St. Lawrence River project will bring installed hydro-electric power capacity in Ontario to some six million horsepower.

Meanwhile the government-owned Hydro-Electric Power Commission of Ontario is working closely with the Federal Government atomic power agency toward a goal of cheap thermal nuclear electric power.

Last year Ontario Hydro brought into production the second biggest hydro-electric power installation in the world: the Sir Adam Beck No. 2 station at Niagara Falls, big brother to the 560,000-hp. Sir Adam Beck No. 1 station at Niagara Falls.

The newest project combined bold and imaginative engineering with the might of Niagara Falls to provide for an ultimate capacity of 1,826,000 horsepower in 16 massive units and a pumped storage scheme. Cost in round figures: $350 millions. It involves twin 5½-mile tunnels leading from above the falls, under the City of Niagara Falls to open cut canals and powerhouse forebay six miles below the falls. From here water rushes down steel penstocks to individual 100,000-hp. turbine installations below.

With its fat doorstep market — including U.S. population, placed at 65 million people — its ready access to tremendous raw materials from forests, mines and sedimentary basins, its call upon huge agricultural resources, including such rich but relatively small pockets as a $25-million wine- and grape-growing area; a $60-million tobacco crop, its big and skilled labor supply, improving transportation facilities, and abundant power and fuel energy pool, Ontario is geeting the major share of Canada's new industries.

As a province approaching its destiny at a time of growing consciousness of planned economy coupled with the amenities of living, Ontario has broad plans for expansion along orderly lines.

W. K. Warrender, minister of Ontario's Department of Planning & Development, is spearheading a sweeping master plan which divides 412,582-square-mile Ontario into nine economically logical areas. Aim is for greatest land and resources use in each of the areas and, over-all, equitable and optimum division and distribution of residential areas, farming, light and heavy industry and recreational lands.

Leading Manufactures of Ontario

1939—(Gross value of Production in $ Millions)		—Today	
Nonferrous metals	134.7	Motor vehicles	728.6
Automobiles	102.1	Pulp, paper	387.0
Slaughtering, meat packing	79.4	Primary iron, steel	359.4
Elec. apparatus, supplies	67.7	Slaughtering, meat packing	355.6
Pulp, paper	65.4	Nonferrous metals	353.4
Flour, feed mills	58.3	Rubber goods, incl. footwear	256.9
Rubber products	55.7	Motor vehicle parts	255.2
Butter, cheese	52.6	Machinery, heavy elec.	211.7
Primary iron, steel	48.9	Agricultural implem'ts	160.8
Auto supplies	37.9	Petroleum products	153.5
Fruit and veg. preparations	37.1	Fruit and veg. preparations	136.5
Bread, bakery prod.	36.3	Butter, cheese	132.9
Machinery	34.2	Flour mills	130.6

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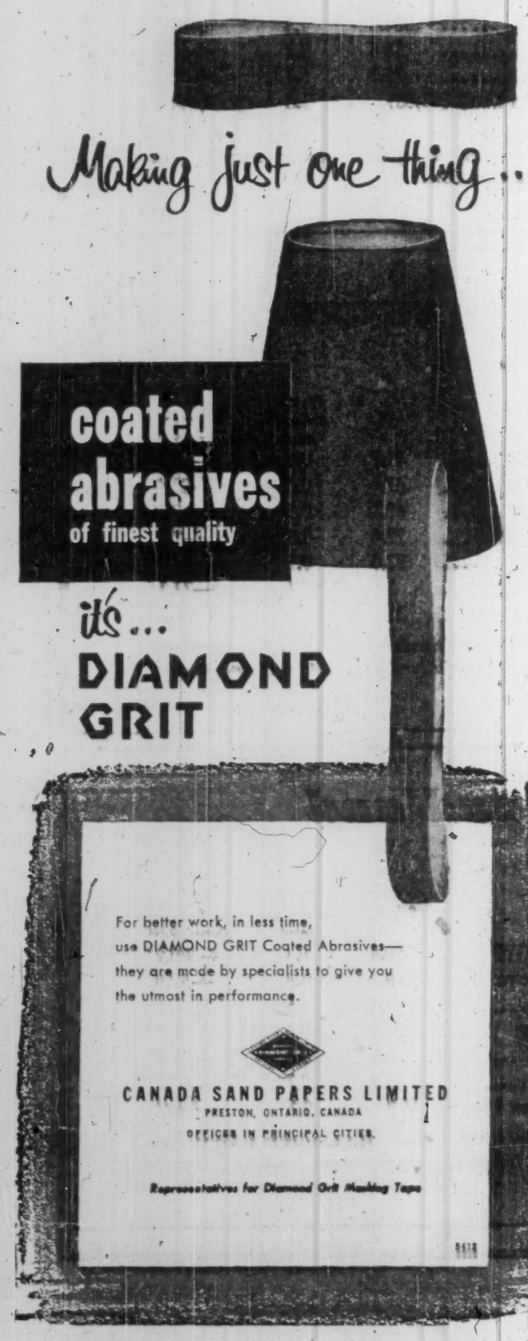

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Newfoundland

—Photo by George Hunter.

NEWFOUNDLANDERS are enjoying a new and exciting emotion.

It is Optimism—spelled with a capital O.

Says a Newfoundlander: "More and more people are coming to believe that with the full use of her natural resources, Newfoundland could and is becoming one of the finest places to live."

Add to that the evidence that the population is rising—the figure reached 400,000 last year — and that the tendency among the younger generation is toward staying at home, because they see a future for themselves right on their own doorstep.

What's behind it all? Not so many years ago the outlook for Newfoundland was distinctly cloudy. The fishing industry, major source of income for the islanders, had run into heavy weather in more ways than one. Dissension over the political future of Newfoundland was rife. Incomes were uniformly low.

Now that's all changed. There's hope in Newfoundland again; a future to look forward to. Plans are maturing, schemes are shaping to reality. Unemployment is dropping, incomes are up.

The spark behind it all is, of course, the amazing economic renaissance that has taken place in the island since it became, in 1949, Canada's 10th province.

In most cases of development, natural resources come before industry. Newfoundland had been living off its natural resources — fishing, forestry, mineral — for hundreds of years.

When the island became part of Canada in 1949, it was obvious that something had to be done — and quickly — about Newfoundland. There was no standing still.

The "doing" required a great deal of courage, some luck, hard work, a willingness to take a chance, to gamble on the future. And, most important of all — money.

Newfoundlanders—and their government — were willing. The chance was taken. It looks as if Newfoundland is going to make it.

When the government of Premier Joseph R. Smallwood came to power, there was a surplus of more than $40 millions, left by the old Commission of Government.

With that, plus subsequent account surpluses, a bond issue of $10 millions, and a great deal of private capital, Newfoundland set out to put new life back into the economic body of the island.

First on the program was the establishment of new industry in the island. Newfoundland in its undeveloped state scarcely looked like a manufacturer's dream. The pill had to be coated, and Mr. Smallwood's government proceeded to use the surplus account as "sugaring." European firms which were short on dollars found they could get loans up to half the capital they needed to establish in Newfoundland.

At the same time they saw that the island had enough confidence in its own future to set up its own businesses. Under the aegis of the government a cement plant, a gypsum plant and a cotton mill were built and put into operation.

That was enough to convince the doubters. Industry gave Newfoundland the okay and began to move in. Now there's machinery, leather, furniture, clothing, knitted goods, gloves, rubber goods, batteries, cottons — even motion pictures are being made in Newfoundland.

At the same time as all this was going on, an intensive survey was started to discover just what it was the island itself could offer in the way of more raw materials and resources. What was the hydro potential? What minerals could be profitably mined? Could the island's timber be put more profitably to work?

The fishing industry, too, the island's oldest source of income, was thrust under the microscope, dissected and studied to see if it couldn't be made to tick a little louder.

Gradually Newfoundland's future began to take shape. Within a couple of years, a dozen new manufacturing plants were established on the island. Hydro surveys showed several millions of developable horsepower in the rivers of Newfoundland and Labrador. Thirty-five million cords of saleable pulp were recorded.

From 1951 to 1954, the government poured out cash. Public funds to the amount of over $17 millions were spent on establishing industry. Over $11 millions was spent on the three government - sponsored plants alone.

Dominion Steel & Coal paid out $11 millions modernizing and mechanizing its huge Bell Island iron ore mines.

Bowater's (Newfoundland) Pulp & Paper Mills spent $10 millions on an expansion program which was to raise production by 50,000 tons a year. Anglo-Newfoundland Development's $17 millions has gone in a program to increase capacity and efficiency and improve output.

Avalon Telephone Co. began a $1.5-million expansion of facilities last year, designed to increase the number of telephones by 6,000-7,000.

Newfoundland Light & Power Co. boosted electricity sales over 22% in 1953, and is building a steam plant to increase capacity by 10,000 kw. More and more power is needed, calling for still more expansion of the life-blood of industry.

In not quite a full year of operation some of the smaller industries are doing a remakable job. One of them, Koch Shoes, produced 20,000 pairs of shoes last year, and have solid orders from the mainland for more.

Superior Rubber Co. is expanding its lines and increasing production. Eckhardt Knitting Mills is due to come into production this year.

Meanwhile the fishing industry received a shot in the arm, beginning a complete overhaul. It's a job that will take years yet to complete, and is likely to cost about $100 millions. The task has been turned over to the newly created Fisheries Development Authority which can have $25 millions in loans outstanding at any one time.

It will mean a drastic change in the very way of life of the Newfoundlanders. Populations will have to be concentrated to allow modern efficient fish processing facilities to be undertaken. Tiny villages will disappear.

In one place, La Scie, a big community development experiment is under way. If it works out, La Scie will grow from 600 to 4,000 people with big processing facilities. Cost — $5 millions.

Four communities: Corner Brook, Corner Brook East, Corner Brook West and Curling, have been offered an annual government grant of $50,000 to amalgamate. Bowater will give them $100,000 if they come together.

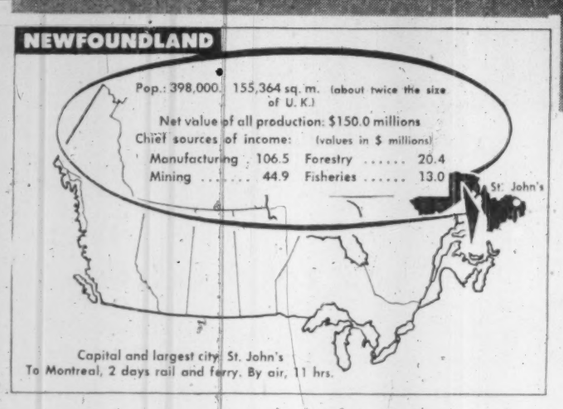
Loans totaling $7 millions have been handed out to some 14 fish companies to improve and develop processing plants. Bigger and better fishing boats have been equipped with better gear to catch the codfish.

Newfoundland's share in the Knob Lake and Seven Islands iron ore development, plus the mining expansion scheduled and already undertaken on the island itself, is beginning to make minerals a subject of considerable importance. Canadian Javelin Co., which holds claims under an agreement with Newfoundland and Labrador Corp. (a mixture of government and private enterprise), is about to begin development of a huge deposit of iron ore on the shore of Lake Wabush in Newfoundland Labrador.

Other firms, British Newfoundland Corp. among them, have big programs of exploration and development lined up.

With his three major programs under way, Premier Smallwood has turned to another side of the economy — agriculture.

Late last year, Britain's Deputy Livestock Chief, Tom Alson, was invited to come to Newfoundland to advise on its potentialities as a breeding ground for livestock. He said that sheep rearing on a large scale was possible, and expansion of the beef cattle raising also feasible. An experimental sheep flock was begun some time ago, and the results are being watched carefully.



HON. J. SMALLWOOD, *Premier*

GORDON PUSHIE, *Director-General Economic Development*

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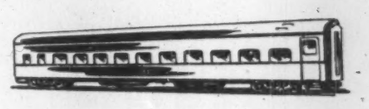

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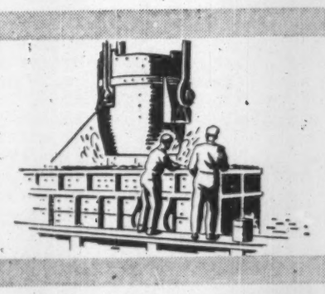

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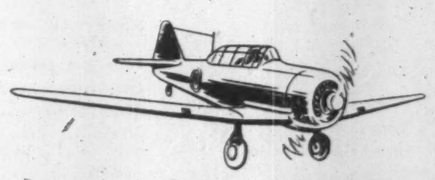

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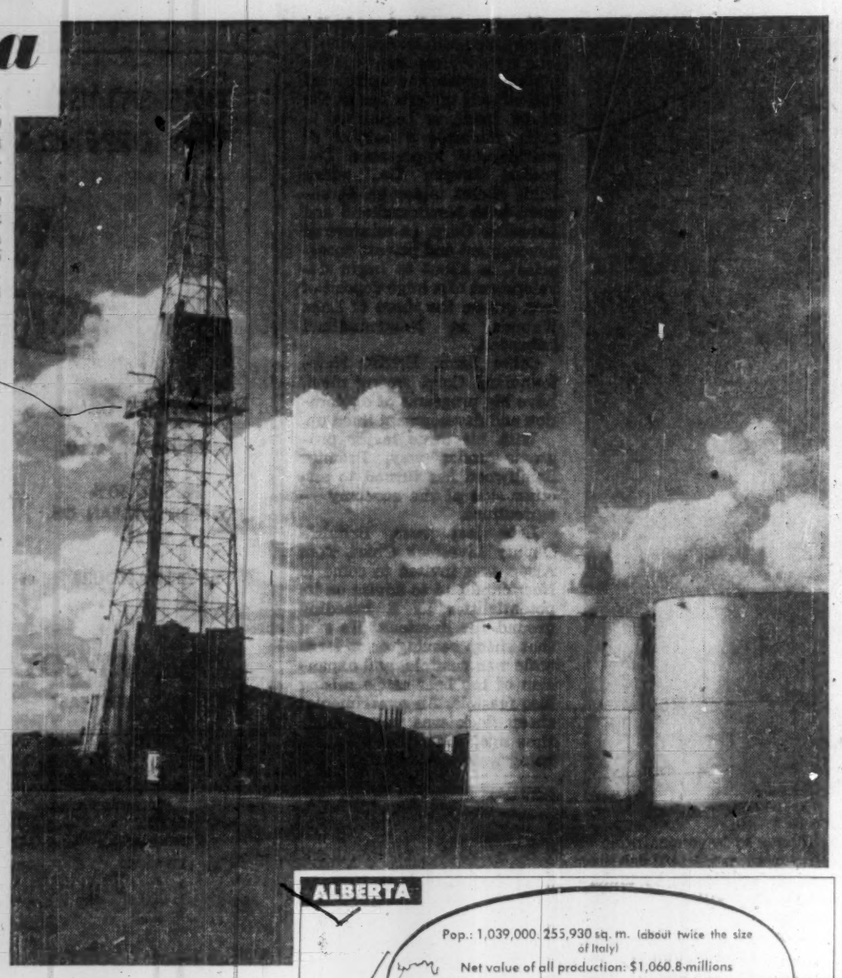


ALBERTA is a modern economic marvel. Only 20 years ago, she was called the poorest risk in the Commonwealth for investors. Now her economic structure is more solidly buttressed than most other parts of the American continent. There seems no forseeable limit to developments within her 255,285 square miles.

Key to her present prosperity and growth is of course, oil, with its attendant natural gas. It has set off a tremendous industrial chain reaction.

Even as one of the world's most important granaries, Albertan economy was precarious through over-dependence on agriculture. The discovery of Leduc in Alberta in 1947 put Canada on the road to her present point of near self-sufficiency in oil where formerly she was 90% dependent on imports. But the impact on the province was more concentrated, diverse, spectacular.

Oil and its companion, natural gas, set multi-million-dollar developments booming in petrochemicals. In the wake has come secondary industries, new industries, new population. The rich farmlands still provide the largest part of the provincial income though on a diminishing percentage. The important thing from Alberta's viewpoint is that agriculture is now only part — no longer the kingpin—of her economic base.

In the short eight years since Leduc, Alberta's economic stature has grown remarkably. Gross value of provincial production now is 400% up on 1939 and still mounting.

An Oil Reservoir

From 500 million barrels proven at the end of 1947, Alberta's oil reserves spiraled to 2.5 billion at the end of last year. Production in 1954 reached 265,000 barrels a day to bring the year's total to around 89 million barrels worth over $225 millions—$75 millions more than in 1953.

A $200 million pipeline — 1,165 miles long—connects the Alberta oilfields with the big Ontario refining centres. It is the longest in the world. Another that cost $90 millions was completed in 1953 to take oil westward across the Rockies to the Vancouver area coastal refineries.

HON. E. C. MANNING,
Premier

But oil refining within the province has also catapulted. Edmonton, the capital, had no refining capacity in 1936; today the city is the largest refining centre in Western Canada and capacity is still increasing. Investment in the province in refining represents more than $50 millions in eight years. This side of oil developments has reached a stage where refined products from outside can no longer compete. More recent developments include Imperial Oil's $10 millions lubricating oil plant and McColl-Frontenac's $4 million addition to its refinery—both at Edmonton.

And Alberta has enough natural gas under her farmlands to keep the whole of Canada and a slice of the U. S. supplied for the forseeable future.

In the years immediately ahead, provincial industrial development officers see $800 millions in new capital investment pouring in for secondary industry — adding to the substantial secondary enterprises already established since Leduc. This is a carefully calculated total, based on records of intentions.

Petrochemicals are already a major side of Alberta industry. In production since 1953 on a partial scale, just east of Edmonton, is the $70-million plant of Canadian Chemicals & Cellulose Co., a subsidiary of the huge Celanese Corp. of America. It is the largest plant of its kind in the world, turns out a wide variety of industrial organic chemicals for civilian and defense needs by a process based on oxidation of liquid petroleum gases.

CIL 54 is operating a $14 million polythene plant about a mile south. Also in the area are Interprovincial Pipe Line's great western storage tanks—a focal point for a network of oil pipelines.

Last year saw the $20 million nickel refinery to process nickel, copper and cobalt ore from Sherritt-Gordon mine at Lynn Lake, Man., come into partial production, also in the Edmonton area. First shipments of nickel were made last August to U. S.

HON. A. J. HOOKE,
Economic Affairs

This is another development springing from the local abundance of natural gas. The plant has a production target per year of 17 million lb. of nickel, 300,000 lb. of refined cobalt. On the schedule is 70,000 tons of ammonium sulphate fertilizer per year but that is not yet being produced.

Vast Coal Reserves

While oil and natural gas overshadow Alberta's mineral picture, she also has vast resources of coal. They are estimated at 47,800 million tons, 15% of world reserves, 87% of Canada's. Annual production declines year by year, largely because the province's other sources of power and heating are so abundant, cheap and accessible. But the coal production figure is still around four million tons annually, worth over $40 millions.

The story of Alberta's growth is reflected in the development of her steam and hydro electric power installations. Total energy generated in 1948 was 724 million kw. hrs. In 1953, it was over 1,340 million kw hrs. Figures for 1954 are substantially above that, and still the total grows. Now a further 10 major power projects are in hand.

Calgary Power Ltd. has increased capacity by more than a third since the war, has a $50 million five-year expansion program continuing without pause after tremendous new development in 1951. The expansion allows $28 millions for new generating facilities, $12 millions for transmission lines, $10 millions for improvements and extensions to the distribution system.

Alberta's agriculture may have assumed a less dominant place in the provincial economy but it has not bowed to the oil colossus. Farming in all its aspects is a vital, progressive industry in the province today with its own branches of new development. Its wheat, and coarse grains still go off to foreign lands far and near, its cattle number around two millions.

Last year's weather cut production from the great, spreading grain fields. In 1953, 232 million bushels of coarse grains and 163 million bushels of wheat were harvested, value of field crop production was around $490 millions. Livestock and livestock products were marketed for around $224 millions.

In the province's southern irrigation districts, a new era of development for highly specialized farming and attendant industries materialized.

Main crop of the 812,000 irrigable acres is sugar beet. In hand now is a project to add another 450,000 acres to that irrigable total. It has cost the Federal Government about $6 millions, and the Alberta Government more. With it comes a substantial canning industry.

Lethbridge, centre of the irrigation development, has expanded greatly as a result. There has been a great influx of population with new industries to process varied food products from irrigated land, new discoveries of natural gas such as at Pincher Creek.

R. MARTLAND,
Industrial Development Director

Centre of the province's clay products industry is Medicine Hat and its neighboring town Redcliff, where one of the brick and tile producers has a $3 million extension under way. More than $2 millions worth of earthenware pots, crocks, ornaments and tableware are produced each year in the area.

New Industries

The stream of new industries into the province continues. Calgary, next in size in the province to Edmonton, has become the administrative headquarters of all the major oil companies. But she is getting a substantial share of other industrial development. Chrysler Corp. recently completed a $500,000 parts depot there, and the $1 million plant of Continental Can Co. is nearing completion. This year saw the new $375,000 automobile storage battery plant of Willard Storage Battery Co. going into operation at Calgary and another battery and metal plant to produce lead plates has also been finished recently.

Other projected developments in the province are:

—An $18 million plant in Southern Alberta to produce chemical fertilizers.

—A $2.5 million steel mill at Edmonton to produce 30,000 tons of steel construction equipment a year from Alberta scrap iron.

—An $8 million steam electric plant of Calgary Power Ltd. at Lake Wabamun, west of Edmonton, due for completion in 1956.

—A $1 million sulphuric acid plant at Fort Saskatchewan.

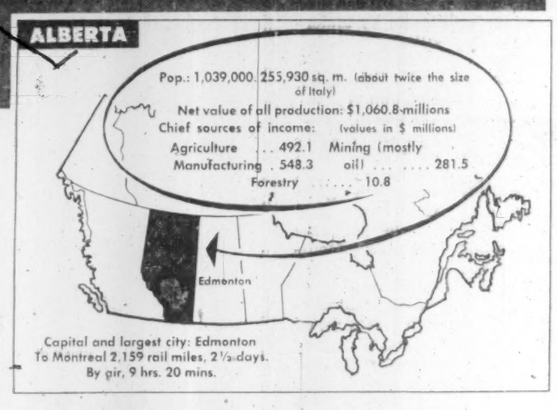
—A $5 million Portland cement plant to be built near Edmonton by European interests.

—A $30 million pulp and paper mill near Edson.

Alberta is also one of Canada's great tourist centres. On her southwestern border in the Rockies lie two of the country's greatest national parks — Jasper and Banff, the resort of thousands of visitors from the U. S. every year.

For the future, 10,000 square miles of untapped Precambrian Shield in the extreme northwest of the province could become an important metals producing area, if the Shield's riches elsewhere hold true for Alberta. The Athabasca River, winding through the area, affords water transportation for limited periods in a year. Further west, the Mackenzie Highway extends from Great Slave Lake in the Northwest Territories south to Edmonton.

A factor to bring the area's active exploration a step closer is the possible utilization of the famed Athabasca oil sands. Stretching along the Athabasca River for 80 miles, widening to 30 miles at points, the sands are considered to hold the largest single oil reserve in the world. But, though estimates of oil quantity have varied from 100,000 million to 250,000 million barrels, extraction remains for the future.



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Flour, feed mills	9.9	Flour mills	40.9
Butter, cheese	8.7	Butter, cheese	32.1
Bread, bakery prod.	3.5	Sawmills	23.9
Rly. rolling stock	3.4	Sash, door & planing mills	21.1
Breweries	2.9	Bread & other products	15.0
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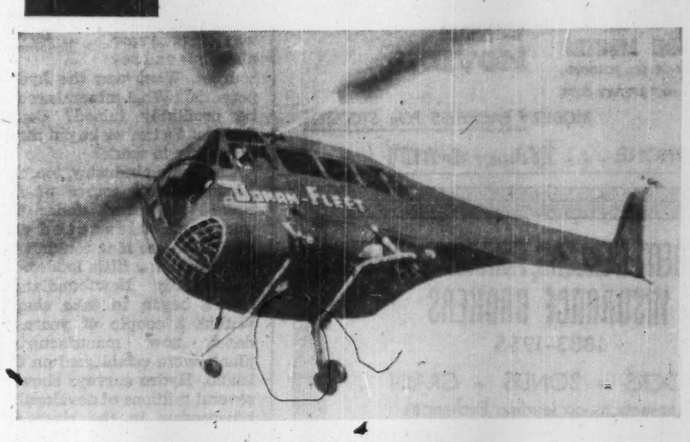

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Saskatchewan

THE fortunes of landlocked Saskatchewan rise and fall with Canadian and world demand for the products of its rich soil, its mineral deposits and its forests.

Probably there are few places in the world where such a large area is so completely tied to its natural resources. This has been both good and bad for Saskatchewan and its people.

There have been years when individual income sank almost out of sight. In one year during the depression and crop failure period of the 1930s, net farm income became a minus quantity after provision for depreciation.

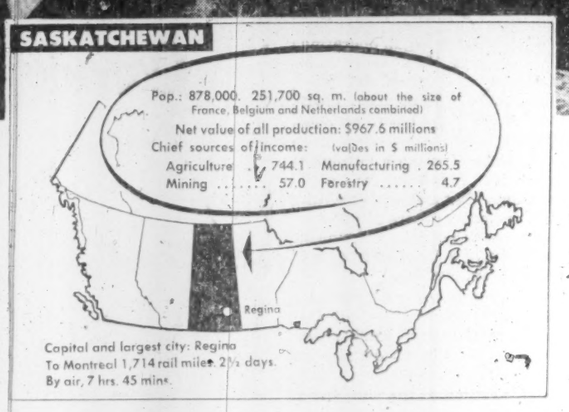
But there have been other years—many of them since the last war—when a golden flood of dollars has had Saskatchewan riding near the top of the economic heap.

There is industry in Saskatchewan, in growing quantity. However, it is usually tied directly to natural resources—milling, meatpacking, processing minerals and oil.

Traditionally, Saskatchewan contends—often without too much argument except from the adjoining provinces of Alberta and Manitoba—that it grows the best wheat in the world. It most certainly grows it in fabulous quantity: Fewer than 100,000 farms, many given to raising livestock, coarse grains or dairying, turn out anywhere from 150 million to 400 million bu. of wheat yearly.

Last year was a bad year, one of the worst, for wheat and coarse grains. Saskatchewan wheat production fell to around 150 million bu.; oats output to some 85 million; barley to 50 million; rye to 6 million. Flax production was about 5 million bu.

This was a crop failure, even though the quantities mentioned may seem large. Their size is testimony to the productive power of the heavily mechanized farms. They range in size from 160 acres to 10 or 15 sq. mi. In most areas, the economic farm is around 640 acres.



Key To Present Growth

Although grains, livestock and dairying form the solid base of Saskatchewan economy, the dynamic growth factor is in mineral resources. It's possible that pulpwood soon may become another cornerstone for the diversified economy which is Saskatchewan's goal.

Oil and uranium are the words which headline Saskatchewan development.

Natural gas is close behind. There are also large deposits of soft coal in the southeast, considerable potash, sodium sulphate, copper, zinc and gold.

Saskatchewan has lagged behind Alberta in postwar oil growth. But multi-million dollar exploration and development programs financed by the world's oil industry giants have resulted in impressive finds of oil and natural gas during the past two years.

Production of crude oil now is around 6 million bbls. yearly with plenty of growth potential. The main worry is to find markets.

During 1954, about 770 oil and gas wells were drilled in the province. There are now around 1,200 oil wells capable of operation and some 120 gas wells.

Saskatchewan's first major postwar oil finds came in the west and southwest, adjoining Alberta. They lent new prosperity to areas where crop failure has been almost chronic.

More recently, light oil has been struck at a number of locations in the southeast in the potentially rich Williston Basin country, which covers parts of Montana and North Dakota in the U. S. and Saskatchewan and Manitoba in Canada.

Saskatchewan's natural gas development also followed Alberta's. Major gas finds are in the west and southwest. Gas production skyrocketed during 1954, totaling 3.3 billion cu. ft. in the first nine months, up 270% from the same period a year earlier.

Here again markets are a big consideration. The problem is to use the gas to the best advantage.

Saskatoon, Saskatchewan's second city, now has natural gas power, following construction of a pipeline from Brock field 101 miles away.

Currently in the planning stage is the trans-Canada gas pipeline from Alberta through Saskatchewan to the big industrial and domestic markets of Eastern Canada.

Completion of this spectacular project will do two big things for Saskatchewan:

—Bring gas and with it, cheaper power, to the cities of Southern Saskatchewan, including Regina, the capital and largest city.

—Allow a market outlet for quantities of Saskatchewan gas in addition to the larger amounts from Alberta.

Following inevitably from gas and oil discoveries are three things: Further expenditure for exploration and development; pipeline construction; refinery capacity expansion.

Saskatchewan is experiencing all three. It's estimated that during 1954 $78 millions was spent by Saskatchewan oil industry on exploration, development and refinery operations—$10 millions for the last.

Two big refinery expansions were completed last year, both in Regina—at Imperial Oil and Consumers' Co-operative refineries. Husky Oil is also expanding its Moose Jaw refinery. Refining capacity in Saskatchewan now is close to 67,000 bbl. daily.

In addition to the Brock gas line, there are a number of other major pipelines.

The Interprovincial Pipe Line passes through Saskatchewan on its way from Alberta to the U. S. and East. A line from Cantuar to Regina is now complete. It will carry up to 20,000 bbl. daily from Fosterton and Gull Lake fields to the Interprovincial line. Smiley field also has been linked to Interprovincial by a 30-mile line.

D. F. H. BLACK,
Industrial Development Director

In uranium, the byword is Beaverlodge. It lies in the far northern part of the province, deep in the rocky, lake-strewn Canadian shield. It's far from rail and road links, served by air.

There, the big name belongs to Eldorado Mining and Refining, the federally owned company. It's expected to raise capacity of its mill from 500 to 700 tons a day. Gunnar Mines plans on production at Beaverlodge this autumn. A number of other companies also have production plans.

There are literally dozens of other areas in the forest-covered North where clicking Geiger counters have recorded the presence of radioactivity. But so far Beaverlodge is the main production bet. Saskatchewan claims to have 75% of Canada's uranium area.

Saskatchewan's gold - copper - zinc production is centred almost exclusively in the long established mining area around Flin Flon on the Northern Manitoba-Saskatchewan border.

The province's annual copper production is worth about $15 millions while zinc output is around $7 millions and gold production $2.5 millions. Overall production of both metallic and industrial minerals comes to more than $50 millions.

HON. T. C. DOUGLAS,
Premier

Interest in potash is picking up.

Two more companies got permission to explore for potash during 1954, while another two firms are sinking shafts. Interest is focused on Unity (in the northwest) and Saskatoon districts.

Biggest recent potash news was the signing of a five-year agreement by Potash Co. of America calling for the Saskatchewan Power Corporation to supply electrical energy to the operations of the company near Saskatoon.

When capacity production is reached consumption of electric power by this one customer may represent a 20% increase on present total power production in the province.

Another natural resource where there may be big expansion ahead is the forests of the northern half of the province. It's estimated there are 55,000 sq. mi. of timber considered economically accessible. But transportation is a big problem. Only a few roads and railways probe the southern borders of the forestland, while water transportation isn't too attractive because of many lakes and shallows.

Pulp And Paper Aim

It's Saskatchewan's ambition to foster a pulp and paper industry in the north. Anglo-Canadian Pulp and Paper has been granted an extension of its option on 2,000 sq. mi. of pulpwood forest.

The extension was asked by the company to allow further talks with railways on freight charges. If the project is realized, Anglo-Canadian likely would build a $30-million mill north of Prince Albert.

A forest access road 73 mi. long has been completed in the northeast. It's expected the road will bear more than a million board feet annually to Saskatchewan production and marketing centres.

Another forest access road now under construction is expected to make accessible 50,000 cords of pulpwood and 30 million board feet of sawn timber.

Among manufacturing industries of Saskatchewan, production of petroleum products leads (1952) in dollar value, with a figure of $70.4 millions. Others include: Flour mills $43.6 millions; slaughtering and meatpacking $36.4 millions; butter and cheese, $27.8 millions; breweries, $9.7 millions; bread and bakeries, $9.1 millions; iron and steel products, $7.4 millions.

Leading Manufactures of Saskatchewan

1939—(Gross value of Production in $ Millions)—Today			
Flour, feed mills	14.9	Petroleum products	50.4
Petroleum products	10.1	Flour mills	43.6
Butter, cheese	7.7	Slaughtering, meat packing	36.4
Slaughtering, meat packing	6.1	Butter, cheese	27.8
Printing, publishing	2.4	Breweries	10.0
Bread, bakery prod.	2.1	Bread, bakery prod.	9.1
Breweries	1.8	Printing, publishing	6.5

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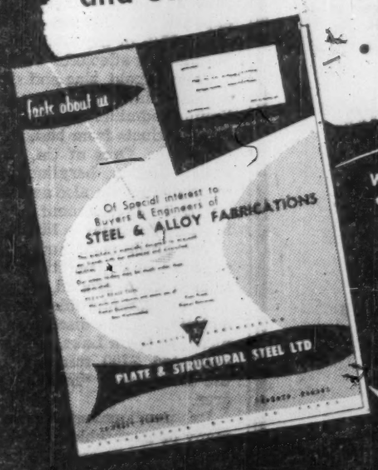

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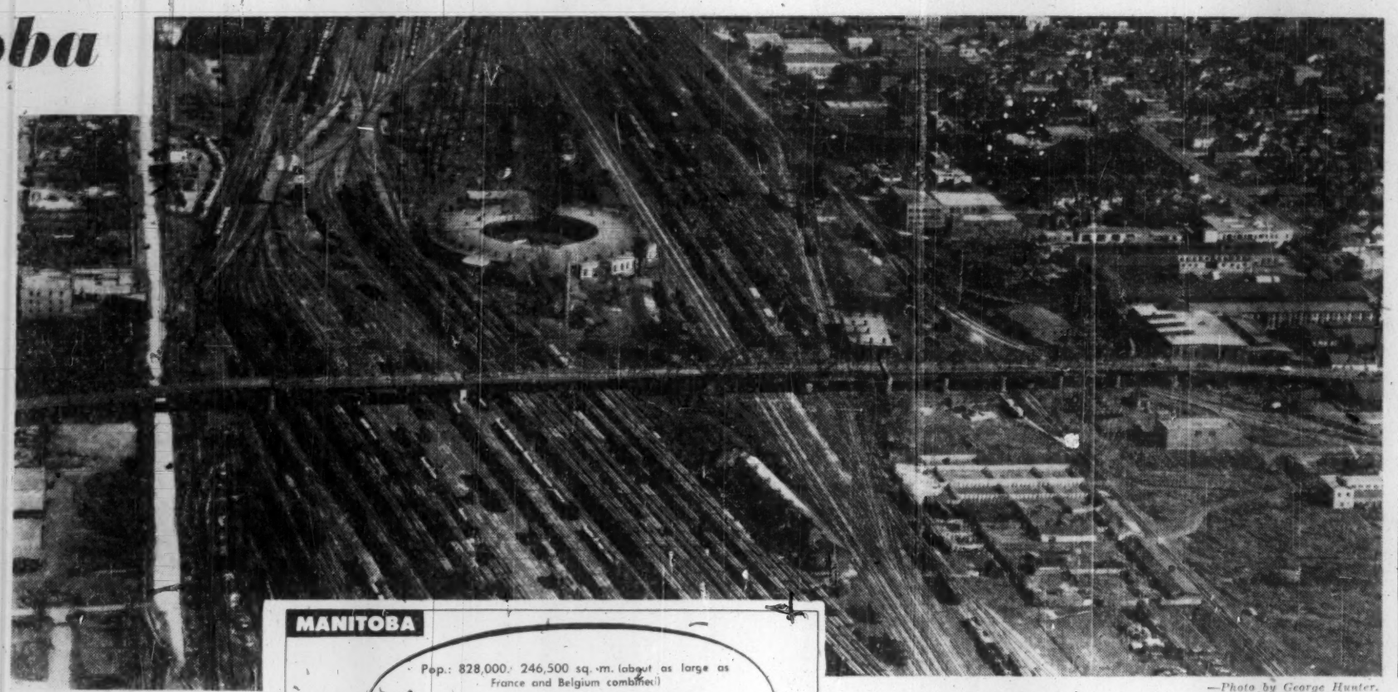


—Photo by George Hunter.

GATEWAY to the Prairies, Manitoba is the scene of a happy combination of industry and abundant raw materials.

The earth is rich. It has hundreds of thousands of acres of wheat each year, forests for pulp, paper and lumber, and under the surface vast mineral deposits yet to be exploited.

In this atmosphere industries are growing fast. Many new manufacturers have chosen this province, near both sources of supply and a growing market. Also they have found new hydro electric schemes in operation which provide vital power at low cost.

The immediate postwar years saw the birth of Manitoba as an industrial centre. New firms arrived, new buildings were constructed at a gradually increasing pace. A peak was reached in 1953.

Despite a small drop, 1954 was still a good year.

Factory production totaled $560,900,000, only 3% below the 1953 record. Forty-five new industries settled in the province. Contracts worth an estimated $387,100,000 were granted to Manitoba firms, 31% increase over 1953.

And the success is further reflected in Manitoba's plans for the immediate future. Some highlights are:

— The $300-million Trans Canada pipeline for carrying natural gas across the province from the western fields to the industrial East.

— Extension and conversion planned by Winnipeg and Central Gas Co. at an estimated cost of $10-$15 million. The work is due to take almost eight years.

—A $2 million booster plant at Portage la Prairie to help move natural gas from Alberta.

—A $20 million pipeline to carry liquid propane gas to Winnipeg.

HON. D. L. CAMPBELL, *Premier*

—The $10 million North Star Oil Refinery, occupying 173 acres of land in St. Boniface, due for completion in July this year.

—A $10 million extension to the Canada Cement Co. plant in Fort Whyte.

— Construction on Winnipeg's $14.9 million post office started early this year.

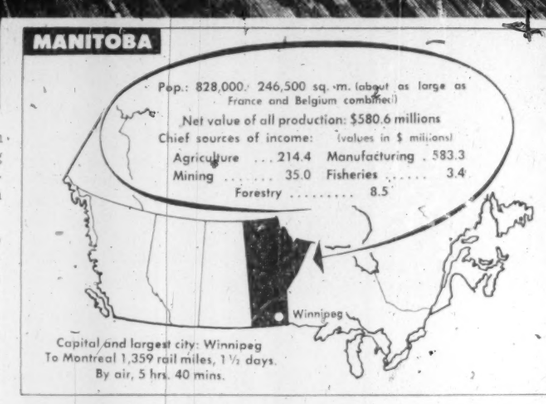
— Grain storage capacity at Churchill, the northern port on Hudson's Bay, will be doubled this year.

This list continues. Big plans vigorous plans, typical of an expanding economy.

Geographic Centre

Traditionally Manitoba's capital, Winnipeg, the geographical centre of Canada, has been a trading community. The industrial goods from the east flowed into its great warehouses to be stored before sale in the west. Wheat and minerals that came back east in payment moved through Winnipeg.

Also, owing to its central position, it is a major transportation centre. This year a $1 million dollar expansion plan is being carried out at Winnipeg's airport. Trans Canada Airlines uses it as maintenance headquarters and the new Viscount fleet uses it as a base.



HON. R. D. TURNER, *Minister Industry and Commerce*

However, the visitor to Manitoba does not remember it as an industrial area. The factories are there, and as their plans show, many more are moving in. But in common with the other prairie provinces Manitoba is still an agricultural giant. The southern half of the area is perfect wheat producing soil. The climate conditions — temperature, rainfall and length of growing season — combine to produce an annual $350 million worth of agricultural products.

And Manitoba farmers are not forced to rely solely on grain. This results in a sounder economy less likely to be affected by world price fluctuations.

There are more than 52,800 farms in the province with over 17,730,000 acres under cultivation. Over seven million acres are sown to field crops, and 600,000 used for pasture.

Nearly 11 million acres, or 60% of the farm land, are classified as improved. In 1954 over 26 million bushels of Oats, 44 million bushels of Barley and 8 million bushels of other grain were produced by Manitoba farmers. In addition they grew over a million tons of hay, 99,000 tons of fodder corn and 225,000 tons of sugar beets.

Mining Wealth

The visitor does not see so clearly the wealth that lies under the fields. Manitoba draws heavily on these resources. The province is fortunate in having a part of the Precambrian shield within its borders. This formation is a store house of minerals. An expanse of 140,000 square miles, 57% of the total area of Manitoba is affected.

Copper, gold, zinc and silver are all mined. Selenium, tellivium, cadmium are recovered as byproducts from base metal operations. Ores of tin, chromium, lithium, berylium, and molybdenum are also available but their development is still in its early stages in Manitoba.

The bleak northland of the province—for generations considered waste ground, is now a site of considerable mining activity. The discovery of nickel at Lynn Lake, worth an estimated $200 millions, was the first major "find" in the area.

Its development produced many of the problems that are becoming common place in the building up of this country. Lynn Lake was isolated from civilization. A railway was built, costing $15 millions, from Sherridon — 120 miles to the south — to Lynn Lake.

Now the new railway is serving dozens of other operations in the north. Lesser mineral deposits, which did not warrant the initial expense of exploitation, can now be reached at far less cost.

Also under the surface lie immense deposits of oil. Manitoba, like the other two Prairie Provinces, is still uncertain just how much there is available. Last year a substantial rise in the province's oil production compared with 1953. In the first 10 months of the year 1,652,492 barrels were produced—an increase of 276.14% over the previous year.

REX GROSE, *Deputy Minister, Industry and Commerce*

Manitoba has another valuable asset — water. The lakes and rivers of the province proved ideal for developing hydro-electric schemes and produce 70% of the available water power in the Prairies. Now industry can draw on hundreds of plants producing dependable low-cost power.

Further development of hydro-electric power is under constant consideration. With the opening up of the northern area new water resources have come within reach of the new industries.

Typical of the new developments is the McArthur Falls Project. The hydro-electric plant has been built on the Winnipeg River, 50 miles northeast of Winnipeg. The first generator began operating in December 1954. When it is finished at a cost of $23 million, there will be eight units of 10,000 hp each serving industry.

In spite of being a "prairie" province, Manitoba is 40% wooded. That means that within her borders there are 93,000 square miles of forest of which, at present, a little over 30,000 are productive.

The northern development is opening new areas all the time, and soon lumbermen hope to be able to operate in nearly all the regions.

It is estimated the total stand of timber is composed of 2,445 million board feet of raw material and 28,900 thousands of cords of small material giving a total equivalent volume of 2,953 million cubic feet.

The forest also supports many secondary industries such as scores of sash, door and planing mills, which produce a wide variety of goods including wooden boxes, crates, furniture, boats, etc. Pulp and paper is a major Manitoba industry.

There is another valuable asset in the woodlands. It is the wild animals. The fur resources are important to the provincial economy.

Manitoba ranks first among the provinces in pelts taken from the wild and second in the wild fur production.

As the forests shield the precious fur animals, so the lakes and rivers harbor a second valuable prize. In the 16,789 square miles of lakes thousands of fish are caught each year.

These lakes — Winnipeg, Winnipegosis and Manitoba — together comprise one half of the total water area in the province and are responsible for the bulk of Manitoba's commercial fish production.

Over a dozen species of fish are fished commercially in the province.

Leading Manufactures of Manitoba

1939—*(Gross value of Production in $ Millions)*—Today

Slaughtering, meat packing	26.8	Slaughtering, meat packing	112.3
Rly. rolling stock	12.1	Rly. rolling stock	89.2
Butter, cheese	9.8	Flour mills	28.1
Flour, feed mills	6.1	Butter, cheese	27.3
Clothing, men's factory	4.1	Petroleum products	25.3
Printing, publishing	4.0	Clothing, men's factory	22.1
Bread, bakery prod.	3.7	Misc. food preparations	21.1
Coffee, tea, spices	3.0	Furniture	14.4
		Printing, publishing	14.0

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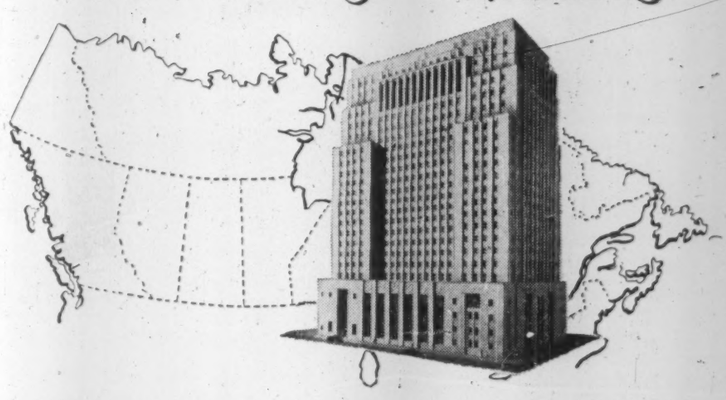

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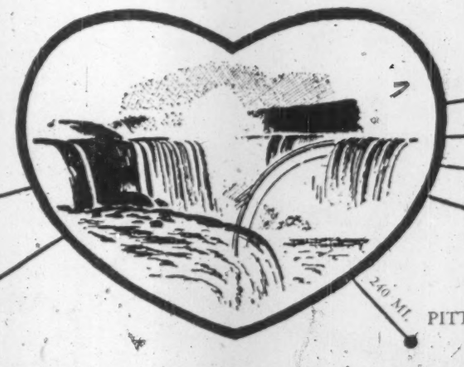

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British Columbia

BRITISH COLUMBIA, Canada's Pacific coast province, is a potent customer and producer in the national economy.

B. C.'s borders encompass some of the world's most beautiful scenery, ranging from sub-Arctic mountainlands to warm fruit-growing valleys. Scenes vary from glacial peaks in the Rocky Mountains to deep-cut ocean fjords, from wooded slopes to dairy pasturelands. Behind the beauty lies wealth.

This mountain province is rich in hydro-electric power, timber industries, mines and farms. It is the home of Canada's world-known sockeye salmon industry, and other wealthy fisheries.

B. C. is attracting new people, new industries and new wealth every year.

Last year British Columbians earned more. Their production in the principal industries was as strong as ever. Retail sales were steady, and more income went into bigger housing programs. They channeled more money into public service building, too.

B. C.'s vast forestlands produced $523 millions in timber, lumber and pulpwood. The woodland industries set new production records, such as 3,850 million board feet of lumber, 5,420 millions board feet of timber.

Despite all this wealth being harvested from the forests, provincial officials estimate that B. C. has 133,000 million cubic feet of timber standing in the woodlands.

The major forest industry is sawmilling, which hit a production record last year and shipped 15% more lumber than in 1953.

In the pulp and paper industry B. C. has shown great expansion. Companies are planning at least three major new mills, two worth $65 millions, the third costing $15 millions. One of the plants will be built at Kitimat, the enormous power and aluminum development in the coastal mountains.

HON. W. A. C. BENNETT, *Premier*

B. C.'s mining industry output reached $150 millions last year, about half of it in lead and zinc. Lead production rose by about 12%, but zinc production was down. Prices were steady.

B. C. is Canada's fourth largest mining province, following Ontario, Quebec and Alberta.

Farms and Fisheries

Cash income on the province's farms was estimated at $105 millions last year, up slightly over 1953. Livestock and dairy products, which comprise 51% of the agricultural output, showed gains of 20% and 8% respectively.

Last year was a record year in the B. C. fisheries. Production was better, and the industry increased its sales to Britain, the United States and European countries.

Salmon, which alone accounts for more than 70% of the marketed value of B. C. fisheries products, was packed to an above-average total of 1.7 million cases.

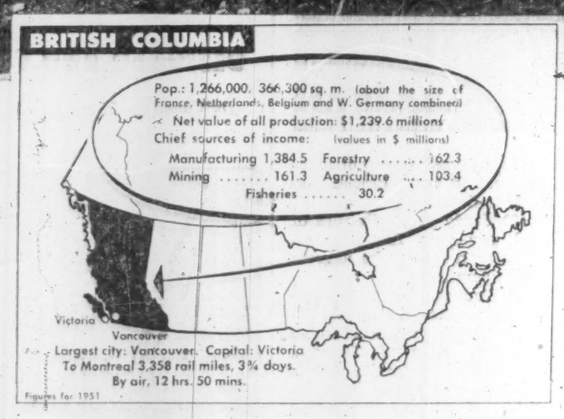
The herring catch, estimated at 170,000 tons, was the highest of the last three years.

B. C. fishing industries and the Provincial Government constantly strive to improve coastal fisheries. For example, a $100,000 contract has been let for a fishway at Stamp Falls, on Vancouver Island. This may bring an increase in coho, sockeye and spring salmon.

A survey of the Babine River area shows that conservation policies are successful. Since rock slides in the Babine basin were cleared, fish eggs deposited have increased six times over.

B. C. has a whaling fleet, too. Last year it caught 630 whales, an increase of 141 whales over the 1953 catch.

Ports and shipping are of major importance to British Columbia, since its economy has been built on a foundation of exports.



Early figures show that $681 millions in goods passed out of B. C. ports for foreign buyers. The same ports handled $340 millions in imports from overseas.

Exports to Britain via B. C. ports increased by 5% in the first eight months of 1954, accounting for about 20% of all exports through B. C. ports. Exports to the U. S. accounted for 37%.

HON. R. CHETWYND, *Minister, Trade and Industry*

The most important commodity group exported to the U. S. was wood products, valued at $94 millions in 1954's first eight months. These exports included newsprint, planks, boards and shingles.

Japan, too, has increased her imports from B. C. Up to August last year, Japanese buying through B. C. ports had risen by 41% over 1953. Bigger purchases of wheat and other cereal products accounted for the increase.

Construction in B. C. was valued at $503 millions last year, down slightly from 1953, most of it small- or medium-sized projects.

Although the total value was down, by just 11%, building construction itself was at a higher level. There has been tremendous growth in residential building.

Some of the larger projects under way or completed during 1954:

—Vancouver post office building, $10 millions.

—New Westminster wharf, $1.2 millions.

—Hospital at Quesnel, $800,000.

—New railway line from Squamish to West Vancouver.

— 400-unit housing project at Kitimat.

—Sports stadia, British Empire and Commonwealth Games.

— Causeway between Annacis Island and Lulu Island, Vancouver.

— Granville Bridge, Vancouver.

—Fish reduction plant, Prince Rupert.

There are major projects scheduled to start this year:

—Expansion of the great development at Kitimat, $40 millions.

—A kraft pulp mill at Duncan Bay, $15 millions.

— British Columbia Power Commission expansion program, $15 millions.

—Expansion by British Columbia Electric Co., $20 millions.

—Start of a natural gas pipeline from Alberta to Vancouver, $100 millions or more.

Hydro-Electric power has been a major factor in the postwar development of British Columbia as a manufacturing centre. At the end of last year B. C. power plants were pulsing out 2.1 million hp, the equivalent of 1.7 hp for every person in the province. Output rose by 50% during the year.

New projects that came into action included the 420,000 hp Kitimat site, the first stage of a Pend d'Oreille River site and a fourth unit in a power station on the Bridge River. Two new plants go into operation this year: a 35,000 hp plant at Puntledge River, Vancouver Island, and a 5,500 hp station on the Spillimacheen River.

T. STURGESS, *Deputy Minister, Trade and Industry*

In addition to Kitimat, another giant project is being planned at Taku, where the vast hydro power potential would be used to smelt and refine metals from imported ores.

These operations mean more to British Columbia than new industries. They are open avenues to new ventures in the areas under development. For example, B. C. expects that the Taku project will stimulate the search for valuable minerals throughout the province's northland. Farmers may have to increase their crops to feed these new areas. Long-range planners see chemical plants opening, too.

It is estimated that before 1970 the Kitimat district alone will have a population of 50,000, probably the fourth largest incorporated community in the province. Officials expect a population of 15,000 at Taku within a few years.

Leading Manufactures of British Columbia

1939—(Gross value of Production in $ Millions)—Today

Sawmills	54.7	Sawmills	316.7
Fish curing, packing	17.5	Pulp, paper	125.3
Pulp, paper	16.0	Fish processing	57.6
Slaughtering, meat packing	11.9	Slaughtering, meat packing	54.2
Petroleum products	9.1	Sash, door & planing mills	46.3
Fruit and veg. preparations	6.7	Veneers, plywoods	42.2
Bread, bakery prod.	6.5	Petroleum products	37.8
Coffee, tea, spices	6.2	Misc. food prep.	35.6
Butter, cheese	6.0	Fertilizers	32.5
Printing, publishing	5.5	Shipbuilding	30.6

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THE PROVINCES

New Brunswick

THE industrial future of New Brunswick has been immeasurably brightened by discovery during last three years of several large base metal ore bodies.

Last November the secrecy veil was drawn aside on the most recent, and probably largest, ore body of all. The deposit, which stretches over a favorable zone 6½ miles in length, looks like one of the richest and biggest tonnage base metal propositions in Canada. Preliminary assays returned promising yields of zinc, lead, copper and a little gold. Although a lengthy drilling program—now under way — is necessary to outline stature of showing, a sizeable ore body, has already been proven up.

This big new find being developed by American Metal Co., is the third major base metal discovery in the last three years.

In late 1952 the Austin Brook ore body of Brunswick Mining & Smelting gave the province the first hint of the tremendous riches underlying the surface.

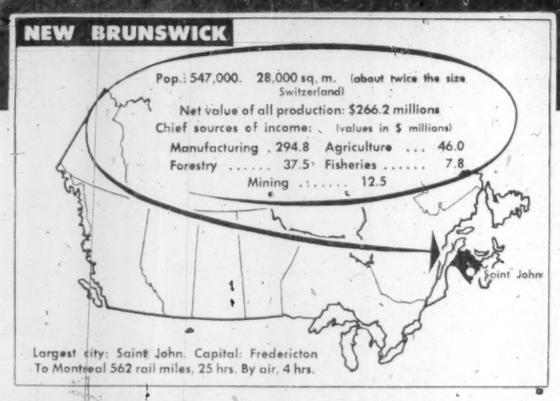
The following year came the Anacon-Deadridge ore body of Brunswick Mining & Smelting Corp., just some 12 miles away from the latest American Metals find. This is a huge 50-million-ton deposit that mine-makers see developing into an 8,000-ton-a-day chemical metallurgical operation.

These three major strikes should mean at least two large mining operations and ultimately a fully integrated chemical-metallurgical industry on the fringes of the Bay of Chaleur. Work is already under way on a pilot mill at the Brunswick property. Studies from this pilot plant which should be completed this winter, will establish the design and flow sheet pattern for the main production mill. Construction of the main plant, which will take about a year to build, should start this year.

HON. H. J. FLEMMING, *Premier*

The exciting new base metal discoveries caused an unprecedented staking rush that has spread to all corners of the province and is resulting in a number of other promising discoveries. The preliminary surveys have already disclosed interesting radioactive minerals in the southern section; nickel deposits in the southwestern corner, manganese further north, titanium in the most northern part.

Not only have the new finds opened up a bright new future for the province but the high level of exploration and development work going on currently is estimated to be pumping well over $10 millions annually into the provincial economy.



Another promising development in the province's industrial future is a possible large-scale opening up of the huge oil shale resources. Pilot plant studies have already commenced at Montreal with strong hopes that:

— A bountiful and cheaper source of electric power will be found.

—A future N. B. chemical industry will be founded which will produce aluminum, potash, magnesium and possibly dry ice.

—Development of a cement plant.

Nashwaak Corp. of Canada, Montreal, hopes to construct a $12-million oil shale burning plant at Hillsborough. The unique project is planned as an open pit oil shale mining operation; a giant $7.5-million twin-20,000 kw hydrogen generator power installation and a series of processing plants to extract magnesium, alumina and potash from the burned-out residue.

Another pilot plant, operated for some time at Batelle Memorial Institute, Columbus, Ohio, has proven that all these substances are contained in the Nashwaak shale in commercially recoverable quantities. The oil shale reserves — 20 miles south of Moncton—are estimated at 100 million tons to a depth of 400 ft.

Another major development now planned would remove one of the chief bottlenecks to industrial expansion in the province.

The New Brunswick Electric Commission has announced a 75% expansion program in its hydro-electric capacity. Not only would the initial 90,000 hp project at Beechwood make available adequate power supplies for new industry over the next few years but it would make possible important rate reductions. Plans are to boost the Beechwood capacity ultimately to 135,000 hp. The additional power would be available for the huge chemical - metallurgical industry expected to emerge from the recent base metal discoveries.

HON. J.-R. PICHETTE, *Industry and Development*

This spring the New Brunswick premier disclosed an ambitious 10-point program designed to speed up industrial development in the province. All possible stress has been placed on full and early development of the province's natural resources — particularly forest, mineral and power resources.

Here is the 10-point program:

(1) Develop powe potentials to secure adequate supply of electrical energy at the lowest possible cost.

(2) Encourage mineral development with a view to processing N.B. minerals to the greatest possible extent within the province;

(3) Immediate consultation with large owners of freehold timber land and also Crown land licensees with a view to increasing, wherever consistent with proper forestry practices, the annual cut from the province's forests;

(4) Endeavor to interest capital to establish canneries or fast-freezing plants to provide alternate market for farmers owning rich potato land;

(5) Improve highways;

(6) Encourage tourist traffic;

(7) Fishing industry encouragement to be continued and further developed.

(8) Study of possibilities of coal resources for purposes other than fuel to be aggressively pursued;

(9) Industry and Development Dept. to give special attention to Marysville industrial situation. (One of Canada's largest cotton textile plants forced to shut down here because of adverse marketing conditions in the industry.);

(10) Participate with Nova Scotia, Prince Edward Island and Newfoundland in the Atlantic Provinces' Economic Council with a view to improving the general economic position of this region.

W. A. MOORE, *Deputy Minister, Industry and Development*

Fisheries Program

Probably the greatest forward development in any industry in the province has taken place in fisheries—one of the basic operations which provides income for over 15,000 persons.

This great natural resource, which for many years remained at an annual depressed level of a few million dollars until the war, has now grown to an annual output of more than $20 millions yearly. The program has included building up of a fleet of draggers particularly designed for the ground fish catch on the Gulf of St. Lawrence coast which is gradually replacing the older methods of fishing.

At the same time, shore facilities have been established for the processing of fish and to meet modern methods of merchandising and to keep pace with the increased catches. Considerable forward strides have been made in shell fishing. These types reach the luxury market across the continent in both canned and frozen states.

The province's economy is still primarily dependent upon wood. Gross value of the main industries for 1951 totaled $258.3 millions. Of this amount pulp, paper and wood products were valued at $135 millions, or about 52%. The continuing strong demand for pulp and paper is a basic factor in the province's economic position. Realizing the great importance of forest wealth, industries have been taking important steps to increase and diversify over-all production and utilize resources more efficiently and to protect the forests from overcutting and the ravages of disease. Since the war majority of pulp and paper producers have made important additions to plant capacity together with plant modernization.

The huge new army training camp being constructed between Fredericton and Saint John will be the largest in Canada and is already providing quite an impetus to the economy of the surrounding area. The federal expenditures, in building the camp and the continuing army payroll thereafter might well equal the largest industry in the province.

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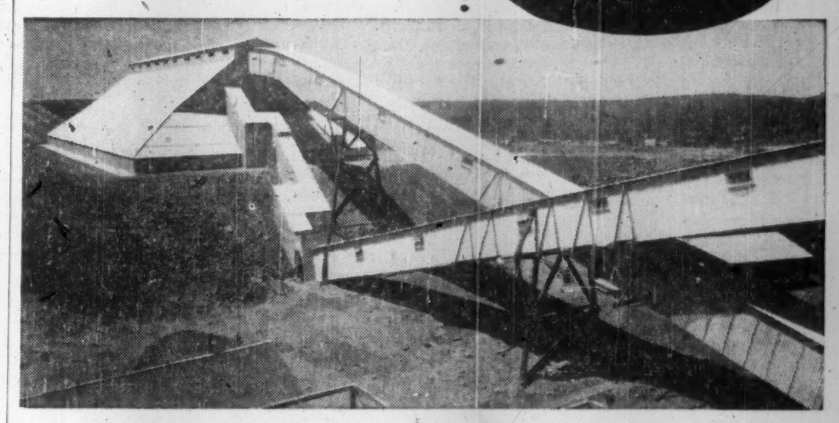

Dry rock storage building and inter-connecting conveyor galleries to the mill at Munro Mines, Matheson, Ont.

Through the years FOUNDATION has completed many projects for this client. Among them are the two concrete mine headframes at Asbestos, Quebec, the huge rockwool and "Transite" pipe plate at Port Union, Ontario, and the mill, warehouse, service and office buildings at Matheson. All mechanical installations were carried out by FOUNDATION.

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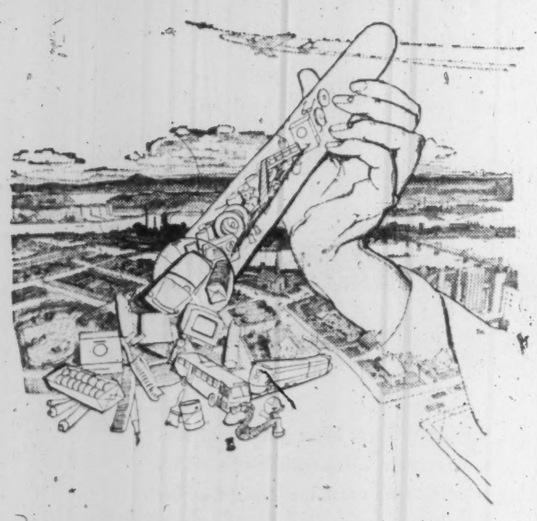

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Leading Manufactures of New Brunswick

1939—(Gross value of Production in $ Millions)		—Today	
Pulp, paper	15.6	Pulp, paper	86.5
Sawmills	5.6	Sawmills	20.8
Coffee, tea, spices	4.2	Fish processing	17.8
Fish curing, packing	3.5	Slaughtering, meat packing	12.1
Fertilizers	1.8	Misc. food prep.	9.6
Butter, cheese	1.7	Sash, door & planing mills	9.2
Slaughtering, meat packing	1.6	Butter, cheese	8.4

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Nova Scotia

RICH IN minerals and forests, within reach of fine fishing areas, and becoming an industrial centre, Nova Scotia is now hurrying to make up for lost time.

For many years, the people watched the other provinces to the west expanding into their northern areas, increasing their population, improving their standards of living. Nova Scotia, in common with the other Maritime provinces, maintained its same steady pace. But in the past few years things have changed, and the entire character and outlook of the area are altering quickly —and for the better.

Three years ago Nova Scotia opened a major resources assessment. Experts checked to see just what minerals and raw materials were available. They found there was far more than anyone had imagined.

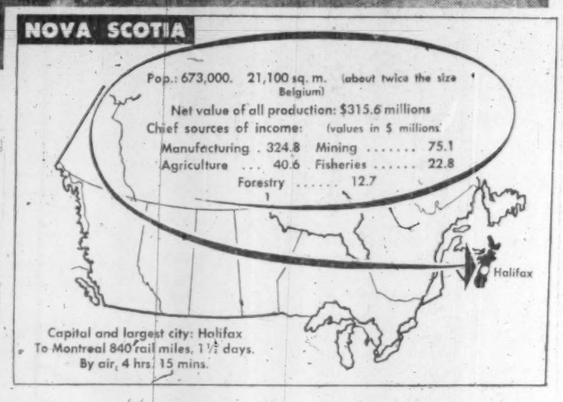
At the same time other experts checked on the sea. They found that by reorganizing the fishing fleets the already prosperous fishing industry could double or treble its results.

HON. HENRY D. HICKS, *Premier*

Industry came under the same scrutiny. Manufacturers had long fought shy of the area. Power was expensive. The population was too limited, incomes too low to make it worth while. With the expansion of power facilities, the power problem was solved.

In 1954 $176 millions were poured into Nova Scotia in capital investment. That was a 15% increase over the year before.

To lay the foundations and guide further development, the province retained a firm of industrial research consultants. The company — Arthur D. Little Inc. of Cambridge, Massachusetts — had carried out similar studies for Japan, India, Mexico and several Caribbean countries.



In Nova Scotia the assignment was to work with the province's Department of Trade & Industry in the following projects:

(1) to review Nova Scotia's natural and human resources, markets, fuel and power sources, existing industries, available plant space, investment capital resources, and other pertinent factors as a basis for industrial development;

(2) to designate industrial opportunities available to Nova Scotia, including new opportunities based on recent or potential technological progress;

(3) to specify companies or groups considered prospects worthy of promotional efforts by the Department of Trade and Industry or its representatives;

(4) to recommend on general matters affecting the development of the province.

Following the initial reports it is expected further surveys will be made in areas that promise to produce the best results.

J. R. BIGELOW, *Deputy Minister, Trade and Industry*

HON. W. T. DAUPHINEE, *Trade and Industry*

National Gypsum Co. is spending $6 millions to develop what is believed to be the largest single commercially pure gypsum deposit in North America. The company plans an annual output by the end of 1955 of 1.5 million tons on property some 30 miles north of Halifax. In Pembroke County barytes production from one of the largest deposits in the world is becoming more and more important to the province.

Industrial developments under way will also play a big part in Nova Scotia's "new look." Imperial Oil Ltd. is working now on a giant new refinery to replace their present Halifax Harbor Installation. The new project will cost $25-$30 millions. It is claimed by the company to be the biggest refinery construction job undertaken in Canada. It will raise daily capacity from the present 22,000 barrels to 41,625.

The province's biggest employer, Dominion Steel & Coal Corp. of Sydney, has gone after world markets and orders are flowing in that mean big business. One has been received from the Mexican Pacific Railroad for $425 millions worth of track. Britain has bought 10,000 steel billets. Germany and Britain will together buy 10.7 million tons of iron ore at an unstated value by 1961.

The continuous story of progress and expansion would be good news to any economy. But to the people of Nova Scotia it comes as a striking contrast to the years before. Industrial dispute and unrest were a constant factor on the scene. Now that is past and Nova Scotia firmly believes it will never return.

Taking Dominion Steel & Coal as an example, the future looks bright. Even last year jobs were scarce and the company was plagued by strikes. Now they are paying out over $60 millions a year in wages and salaries in the province. At Sydney, production of steel has been boosted from 565,000 to 720,000 tons a year. A new 53-oven coking plant has been installed. A new rail finishing mill, considered the most modern in the world, has been built. Other new plants are under construction at a cost of $40 millions.

Another branch of the company—Dominion Coal Co. at Sydney, Sydney Mines, New Waterford and Glace Bay is making big efforts to bring the same prosperity to coal as is being felt by steel. Coal is an important part of the provincial economy, and a weak point in all planning. It is estimated that 110,000 people in the province depend directly on coal for basic economic support. Dominion Coal has now introduced its Continuous Miner, a 20-ton, 150 hp. machine that does the work of 40 men.

The machines, together with underground loading and underground economies, are helping to keep coal in a competitive price range. To help out, big efforts are being made throughout the Maritimes to get local business, industry and homes to support the industry by using coal as fuel.

The oldest and best known of Nova Scotia's industries is fishing. For generations men have put out from the rocky coast to fish the Atlantic. Now this sturdy portion of the provincial economy is getting modernized.

To help the fishermen scrap old two-man dory and handline methods for modern electronically equipped diesel draggers and trawls, Ottawa grants a subsidy of $165 per gross ton on approved boats. The province requires an equity of 30% in the 60-ft. $40,000 boats from the fishermen and loan the rest on low interest, easy payment schemes.

The result is a modern, still growing fishing fleet.

To match the advances on the sea, shore facilities for handling the fish are being improved as well. Cold storage plants and filleting plants have been built to handle the increased hauls. At the same time attention is being paid to improving packaging and distribution to the rest of Canada.

One major development has added greatly to the prospects of the fishing industry. It is a fish product retailed as "fish sticks"; ground fish fillets, precooked, packaged and refrozen ready for heating and serving. In the modern kitchen they are ideal and have done much to popularize fish again in Canada and the United States.

Leading Manufactures of Nova Scotia

1939—(Gross value of Production in $ Millions)		Today	
Primary iron, steel	11.2	Primary iron, steel	40.5
Fish curing, packing	6.5	Fish processing	40.0
Pulp and paper	5.9	Rly. rolling stock	22.1
Rly. rolling stock	3.3	Shipbuilding	21.0
Butter, cheese	3.0	Sawmills	20.2
Sawmills	2.6	Pulp, paper	19.7
Biscuits, confec.	2.3	Misc. iron, steel prods.	10.4
Hosiery	2.1	Butter, cheese	9.2

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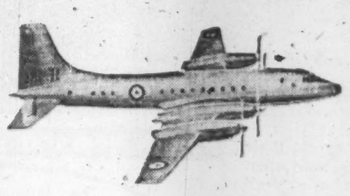

The BE 25 Turboprop Aero Engine is being developed by the Company's Engine Division for transport aircraft of the future.

The power of the BE 25 is 5050 equivalent horsepower and this power output remains constant from sea level to a considerable altitude.

The new engine was initiated as a private venture by The Bristol Aeroplane Company but has now been given a British Ministry of Supply contract. It was designed specifically for transport operation.

The BE 25 combines the advantages of the best existing turboprop engines with those of the latest type of straight jet—the twin spool. Unlike most gas turbines, which begin to lose power as soon as they leave the ground and lose more and more as they climb, the BE 25 provides constant power from sea level up to cruising heights and therefore has available full power for take-off from any aerodrome in the world.

The engine is also designed for a fuel consumption so low that, for the first time, a turbine engine can compete with a diesel in economy.

The BE 25 makes use of the best design features of the Proteus turboprop which powers the Britannia airliner, and the Olympus turbojet which made possible the world altitude record. A close study of each type of turbine engine—the straight jet, the by-pass and ducted fan, and the turboprop, has been made. As a result of this study it is Bristol's conviction that turboprop-powered transports will form the majority of the world's air fleets of the future.

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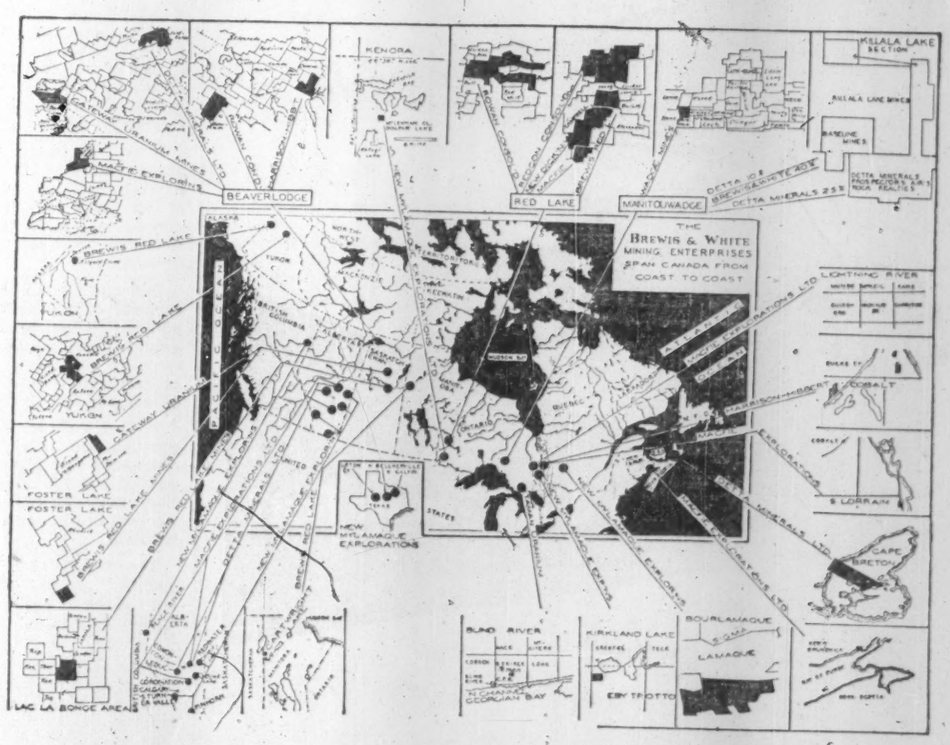

The firm of Brewis & White was founded in 1943 when the victorious Nazis were sweeping all before them and dark days faced the Allies. The young firm had every reason to "play it safe." Instead they PLAYED IT INTELLIGENTLY. Canada was their bet. Eight of the companies originally sponsored by them are listed on the Toronto Stock Exchange and, two of them are dividend payers. The firm's policy, never altered, was to select properties of merit, subject them to expert analysis and, having eliminated as many hazards as possible, invite the public to participate in their development.

THE COMPANY'S POLICY today has many times the economic background from which to prosper that faced the firm in its early days. The St. Lawrence Seaway is going to add 2200 miles of ocean shoreline to Canada's sea lanes. Atomic energy has become an astounding fact. Canada is a potent contender to be the world's chief producer of uranium and oil—and she has land to accommodate many times the present population.

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THE PROVINCES

Prince Edward Island

QUALITY not quantity is the key to Prince Edward Island's importance in the Canadian economy.

This smallest of the provinces is a patch of beautiful rich farmland tucked into a corner of the Gulf of St. Lawrence. The Islanders reap harvests from both the land and the sea.

Its nickname: "Canada's Million-Acre Farm."

This sobriquet indicates the importance of agriculture in the provincial economy. In fact, until a few years ago, the harvest from the fisheries off the Island's shores was a mere 1/12th of the farm crop harvests.

Prince Edward Island seed and table stock potatoes have won recognition around the world. More than half the seed potatoes grown in Canada come from the Island, and find markets in the United States, West Indies, South America and Africa.

P. E. I. claims to raise the world's finest bacon hogs. Hog raisers have developed a distinct hog strain which leads Canada in the percentage of Grade A carcasses.

Despite these "firsts" in agriculture, P. E. I. is also striving for bigger and better production from its millions of acres of fishing grounds offshore.

Until 1950, the Island hadn't processed fillets. Groundfish, in fact, were merely incidental to the lobster catch which accounted for 62%-80% of the fisheries' dollar volume.

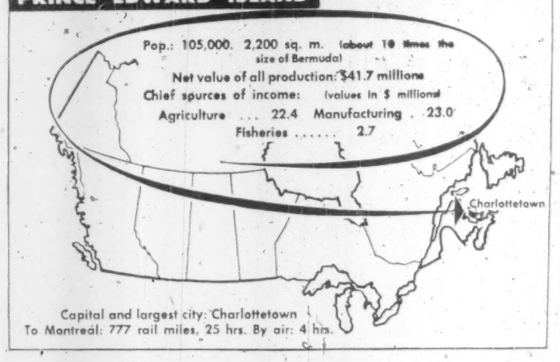
To catch the lobsters, P. E. I. fishermen put out from shore in small boats two months every spring and two months every autumn. They set their traps on the bottom, haul them in after the lobster has entered seeking the bait.

But P.E.I. fisheries officials consider lobster too much of a "luxury" product. They wanted a more diversified harvest from the seas. The fisheries Division of P. E. I.'s Department of Industry and Natural Resources designed a special fishing boat to meet local fishermen's needs. This 60-ft. dragger, electronically equipped, can make three-day voyages out to the rich Gulf of St. Lawrence fishing grounds on an economical basis.

HON. A. MATHESON, *Premier*

W. E. AGNEW, *Director of Trade*

PRINCE EDWARD ISLAND



A plant was opened at Souris to handle the frozen fillets and fish meal brought in by the boats. The boats themselves are owned by the men who man them, often purchased under federal-provincial loan schemes.

A deckhand in one of these craft can earn $2,600 plus his food and bed in a single eight-month season on the fishing grounds.

Another sea-crop the Provincial Government is encouraging is Irish Moss, a seaweed which drifts ashore after storms in the ocean. The moss is valued for the chemicals that can be extracted from it.

In 1953, shore dwellers in Canada picked 10.5 million lb. of it, valued at $242,928 when it reached the market. Some designers are working on mechanical harvesters for the plant, which grows between submerged rocks.

It will probably be many years before P. E. I.'s sea harvests can match her farm output. It is one of the most diversified — and quality-conscious — farm economies in Canada.

Dairying is an important segment of the economy. In addition to the quality of its products, the Island can claim complete immunity to such cattle diseases as bovine tuberculosis and Bangs disease.

P. E. I.'s sheep industry is growing, too. Islanders have cross-bred several varieties in quality-seeking experiments. These flocks today support two woolen mills, which produce blankets.

The Island also claims a quality "first" in poultry, turning out the highest percentage of top-grade birds in the country.

Because of its farm and fishing economy, the Island has developed a sizeable canning industry, its products ranging from lobster, berries to chicken.

Other important industries have followed the economy, too.

P. E. I. had the Maritime Provinces' first plant to process concentrated milk products. This plant, one of the most modern in Canada, today is exporting to other provinces and Mexico. It's part of the trend in Prince Edward Island, promoted by the Provincial Government, toward more processing of agricultural products within the province, both for provincial consumption and for export to other Canadian provinces and abroad.

A fertilizer plant meets the Island's needs. There are other industries that meet local needs, too, such as firms specializing in boat engines, marine fittings and farm machinery.

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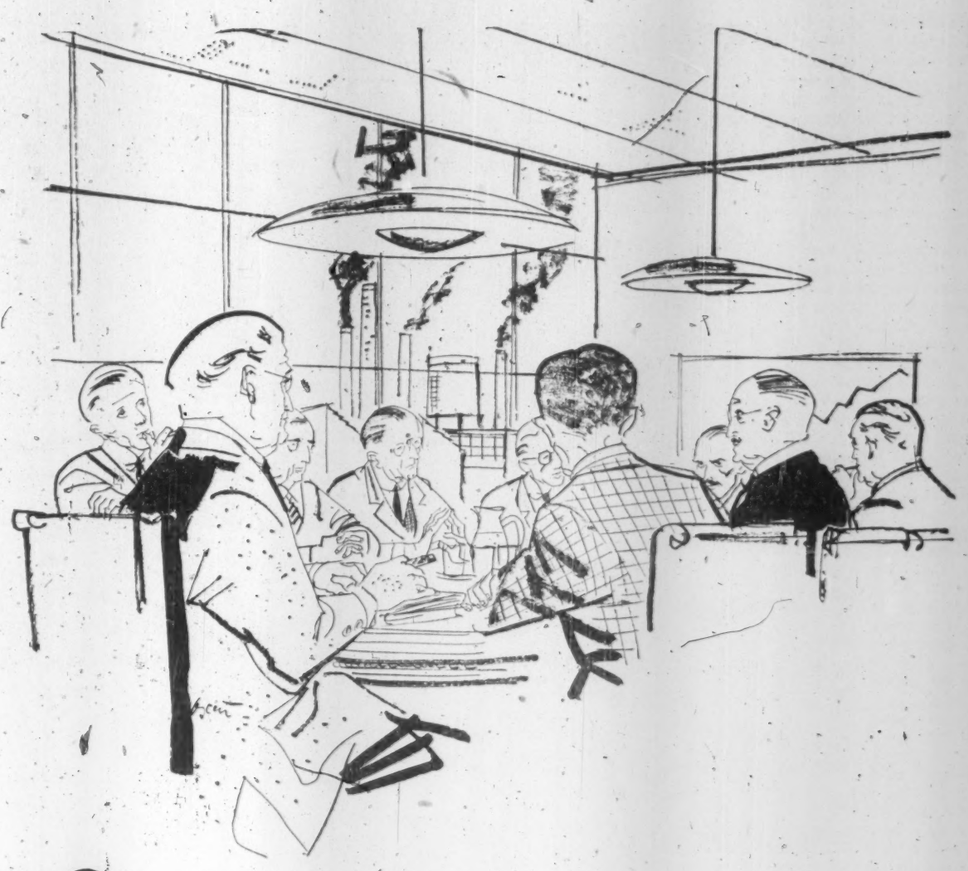

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Quebec

THERE is a vast — and growing — market in Quebec today for sellers, buyers and investors.

It means increased profits for businessmen who take time to understand the differences in habits, attitudes, likes and dislikes, between French and English-speaking Canadians of the province.

This big market is the result of the mid-20th century revolution that has changed the habits of the habitants and transformed this once slumbering fringe of industrial North America into the second largest industrial producer in Canada.

It offers:

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—A wider range of products for foreign purchasers from the lusty manufacturing industry which now produces about $5,000 millions annually.

—New investment potentials in wilderness frontiers where exploration and development are uncovering and tapping rich mineral, timber and water power resources.

It all adds up to more and better business, larger and growing incomes and more money to spend.

Quebec, within its 600,000 square miles, has a population of 4,388,000 (at June 1, 1954), or roughly one in four of the buyers in Canada. About 80% of the population is of French origin and 14% English; of the latter about half live in and around Montreal.

HON. M. DUPLESSIS,
Premier

In 1954, the purchasing power of Quebeckers amounted to $4,489 millions. This can be broken down as follows: salaries and wages, $3,018 millions; net income of agriculture and other incorporated business, $655 millions; interests, dividends, rentals $423 millions; government payments to persons (excluding interest), $393 millions.

To sell in this market, it is imperative to understand the French Canadian because his annual purchasing power of more than $3,000 millions represents about 75% of the entire province. It is also well to consider these facts:

—Retail sales in 1954 hit $2,800 millions.

—French Canadian families, with more mouths to feed, buy more food per capita than any other home buyers in Canada. Their purchases topped $600 millions in 1953.

To increase sales, merchandisers must keep in mind that it is an individual market; not simply a homogeneous section of the Canadian buying power. It buys in its own ways; its own language and according to its own taste.

The French Canadian is an individualist, a cautious purchaser, who is sometimes suspicious of new products. The mass produced goods that he will buy largely depends upon the way in which they are presented and sold to him.

The Quebec of today is a study in contrasts. On the one hand, his wife may still bake the bread, but on the other there's a good chance she may be watching the new television set.

Demand for new products can be well illustrated by the 300,000 television sets now installed in the province — 282,000 in Montreal district and 18,000 in Quebec district. This year five private TV stations will supplement the two existing Montreal CBC outlets.

How To Make Sales

In selling this Quebec market, it is especially important to cater to consumer loyalties. Generally, French Canadians are heavily influenced by point-of-sale displays and shopping advice from storekeepers. Emphasis on direct mail promotion urging clerks to recommend products can pay off in a big way.

HON. P. BEAULIEU,
Trade and Commerce

Advertising and publicity directed to this market must be conceived and written in French. A literal translation for labels and promotion literature is never adequate.

The bulging purse of Quebec is getting a big boost from industrial development. In salaries and wages French-speaking Canadians earned $2,263 millions in 1953 while other residents were paid $755 millions.

Montreal is the springboard and the headquarters for most Quebec industrial development. It is the chief centre for Canada's large railroad systems, a seaboard shipping centre (the largest inland port in the world), and is not far distant from the big power-producing areas. Textile, shipbuilding, steel products and many other industries have mushroomed around this area. Farther east and to the south, in the Eastern Townships, asbestos, pulp and paper, lumber and textiles are major activities.

Along the mighty, highly developed industrial belt of the St. Lawrence lowlands, new plants have been springing up like flowers in a hot bed. The main industrial area around Montreal and the smaller manufacturing centres such as Quebec City and Trois Rivieres are all much greater industrial centres than they were 10 or even five years ago.

It has resulted in a greater range of products, including everything from newsprint to aircraft engines, cigars to clothing. It is illustrated in fields like:

—Agriculture, where provincial farmers showed an estimated net production of $309,851,000 in 1953 from $284,685,000 in 1949.

—Forestry, where lumbermen cut their way to a net output estimated at $160 million in 1953, an increase of almost $47 millions from the 1949 net of $113,537,000.

Such growth has meant that Quebec now:

—Produces more dairy, forest and maple products than any other province in Canada, and is second in the production of vegetables, tobacco, hogs, poultry and eggs, and honey.

—Supplies more than one third of the Canadian pulp and paper output, and more than half its newsprint output.

—Provides 95% of the Canadian asbestos output and 60% of the global supply.

—Turns out more than one quarter of the world's supply of aluminum.

—Has 52% of the total Canadian power installation.

Wealth From Forest

Her pulp and paper industry continues to prosper. The overall total value of production by Quebec's 55 pulp and paper mills probably hit $515 millions in 1953, compared with $508 millions the previous year and $524 millions in 1951.

Newsprint, Quebec's biggest pulp and paper product, showed an output of $324 millions in 1953, an increase of $131 millions over the average year for the period 1939-45.

Quebec's primary textiles is a $400-million business. Most of the 369 mills are concentrated around the Montreal area and in the Eastern Townships, and practically every conceivable type of textile product is turned out. These mills together account for 85% of Canada's total output of cotton cloth and yarns, threads, etc.; 70% of the country's production of synthetic and silk textile products, and 30% of Canada's production of woolen and worsted cloth and woolen yarns.

Quebec textile factories account for some 65% of Canada's output of women's clothing and children's factory-made clothing and 37% of its men's factory-made clothing.

One of the province's richest natural resources is water power. Its present installation of 7,719,000 hp is about 30% of its resources now recorded. New construction will boost the hydro-electric installation of the province to more than 9 million hp by 1957.

In Quebec's treasure chest of minerals, total output in 1954, including quarries, amounted to $286 millions compared to $283 millions in 1953, more than three times the 1939 figure. In general classifications, the mineral output was divided as follows: $97 millions industrial minerals, $56 millions building materials and $133 millions in metals which showed the biggest gain on the year, increasing $31 millions from the previous year.

The big news in the mining industry last year was the first shipment of ore from the huge Quebec-Labrador deposits. It followed the completion of the $225 million development program which has opened up ore riches in the "Labrador Trough," similar geophysically to the Mesabi range. Production for 1954 was estimated at 1 million tons with plans to ship possible 5 million tons next year and a gradual increase to 10 million tons by 1957. Ultimate target is 20 million tons a year.

LOUIS CODERRE,
Deputy Minister, Trade and Commerce

Construction carried out in the province last year was valued at $1,186 millions. This included an estimated $965,701,000 for new construction and $220,167,000 for repair work. (Building construction was estimated at $817,568,000 and engineering construction at $368,300,000.)

The Major Developments

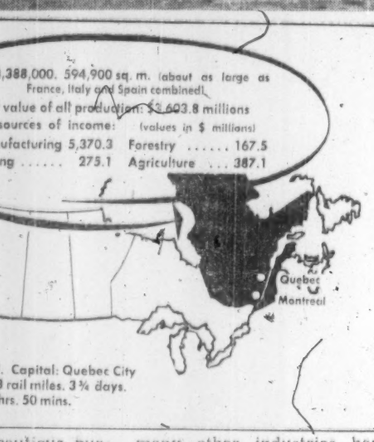
Here are a few of the big projects:

A mammoth $180-million power plant is being built on the Bersimis River by the Quebec Hydro-Electric Commission and is expected to be in operation by 1956. By 1961, eight generating units with a total capacity of 1.2 million hp will be serving Quebec's industries, mines, offices and homes. These will be the most powerful single units in existence.

—In Gaspé Peninsula, Gaspé Copper Mines, a new subsidiary of Noranda Mines Ltd., has already established ore tonnage of some 70 million tons of copper ore averaging between 1% and 2% copper. It has completed the construction of a 6,500-ton daily capacity concentrator and is installing a smelter. Its initial milling rate is the largest in the history of the Canadian mining industry.

—In the Eastern Townships, Quebec's giant asbestos companies recently have spent or are now spending some $75 millions in the Asbestos, Thetford Mines, Black Lake and East Broughton areas in expanding and improving mine and mill operations.

In the Chicoutimi region, Eastern Smelting & Refining Company Limited has plans to establish a nickel smelter refinery. Total outlay will be $11,650,000. In addition, a hydro-electric power development of 28,000 hp primary power and 50,000 hp of secondary power, to be financed separately, is estimated to cost $4,750,000.



Leading Manufactures of Quebec

1939—(Gross value of Production in $ Millions)		—Today	
Pulp, paper	103.5	Pulp, paper	508.1
Nonferrous metals	86.0	Nonferrous metals	317.8
Cotton yarn, cloth	49.7	Petroleum products	264.8
Tobacco, cigars & cigarettes	39.9	Slaughtering, meat packing	189.4
Clothing, women's	39.7	Rly. rolling stock	158.8
Clothing, men's	39.5	Clothing, men's	156.7
Slaughtering, meat packing	36.0	Clothing, women's	148.3
Petroleum products	33.3	Cotton, yarn, cloth	141.3
Butter, cheese	32.7	Tobacco, cigars & cigarettes	129.4
Rly., rolling stock	25.3	Butter, cheese	111.5
Boots, shoes, leather	24.6	Misc. elec. apparatus & supplies	105.5
Bread, bakery prod.	20.3	Aircraft & parts	103.0
Elec. aparatus, supplies	20.3	Synthetic silk, textiles	99.1

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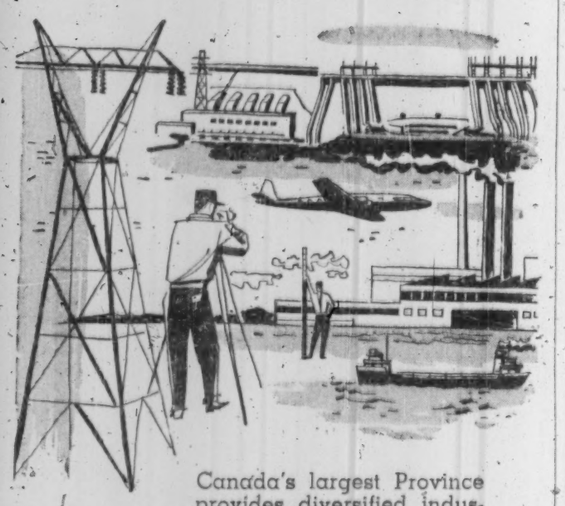
Expand with QUEBEC!



Canada's largest Province provides diversified industry with advanced facilities for lower, basic operating costs. And progress in Quebec is stimulated by boundless opportunities for development and prosperity. Consider, for example, these outstanding advantages for industrial expansion in the 16,000 square miles of Quebec served by Shawinigan:

- An abundance of electric power at reasonable rates with an assured future supply.
- Close, prolific sources of raw materials.
- Assiduous, skilled labour force.
- Excellent export routes to world markets: Modern air terminals and highways, two of the world's largest transcontinental railways, and the great inland seaports of the St. Lawrence.
- Stable government.

The Shawinigan Water and Power Company invites your enquiries regarding the opportunities awaiting you in the territory it serves. When you are considering the location of a new plant, write to:

Industrial Development Department,
The Shawinigan Water and Power Company,
Box 6072, Montreal, Quebec, Canada.

The Shawinigan WATER AND POWER CO. ELECTRIC POWER

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Canada has developed great industries making such varied products as:

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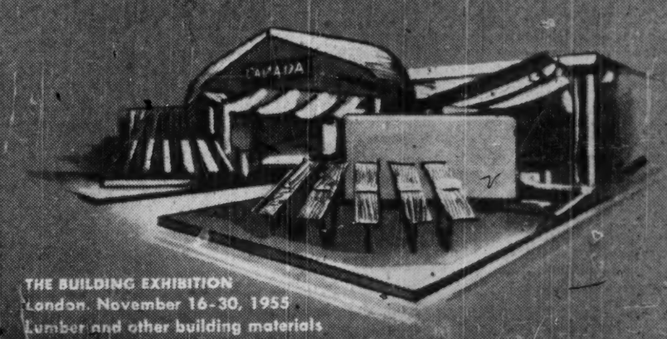
Jet Engines · Fertilizers · Plastics
Synthetic Textiles · Electrical Appliances
Aluminum Goods · Sports Equipment
Automobiles · Clothing

all now serving markets throughout the world.

JAPAN INTERNATIONAL TRADE FAIR
Tokyo. May 5-18, 1955
Grain

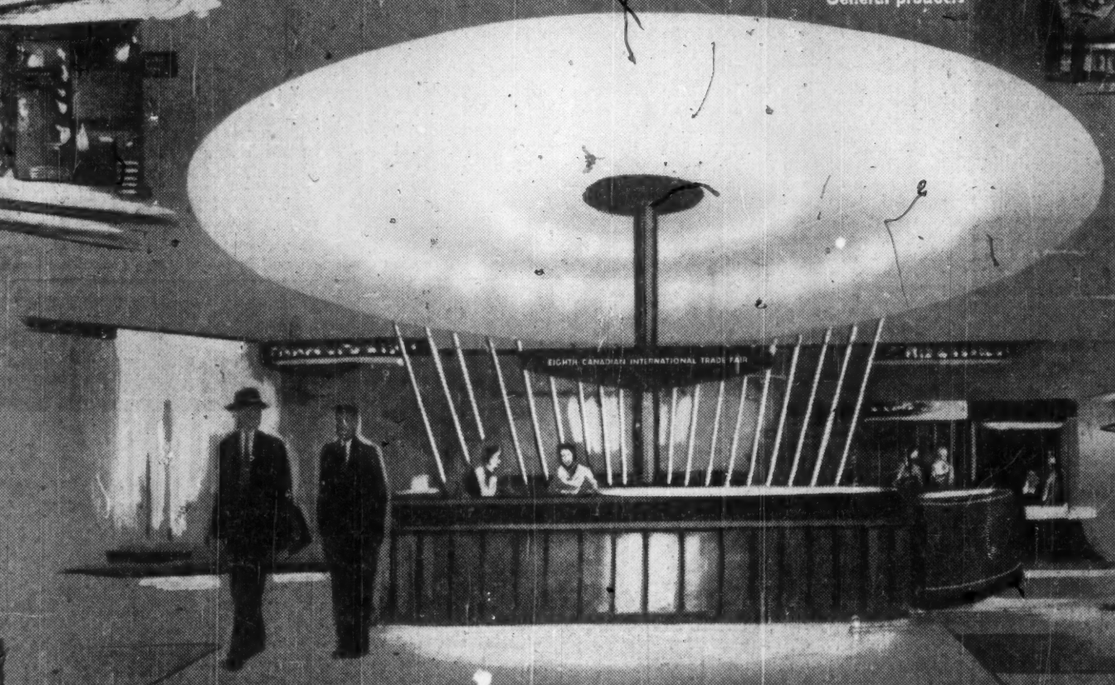
CANADIAN SHOWROOM
The Concourse, Rockefeller Center, New York
Open all year
General products



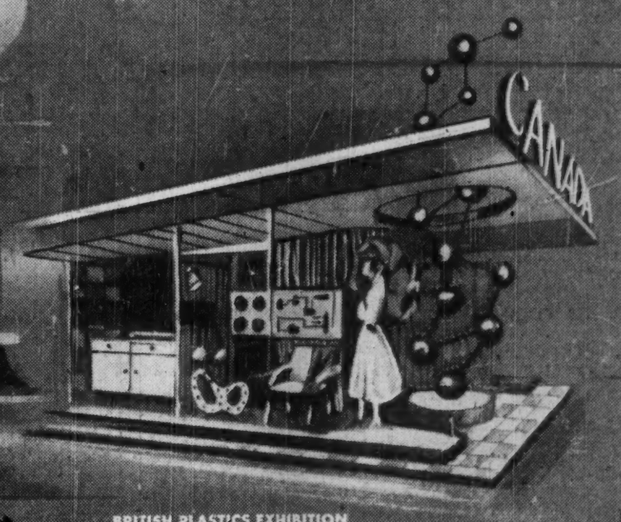
THE BUILDING EXHIBITION
London. November 16-30, 1955
Lumber and other building materials

ROYAL NETHERLANDS INDUSTRIES FAIR
Utrecht. March 22-31, 1955
General products

BRUSSELS INTERNATIONAL FAIR
Brussels. April 23-May 8, 1955
Chemical Products



EIGHTH CANADIAN INTERNATIONAL TRADE FAIR
Toronto. May 30 — June 10, 1955
A full range of products grouped
in 23 trade classifications



BRITISH PLASTICS EXHIBITION
London. June 1-11, 1955
Raw materials for plastics industry

PARIS INTERNATIONAL FAIR
Paris. May 14-30, 1955
Furs

MILAN INTERNATIONAL FAIR
Milan. April 12-27, 1955
Furs

BRUSSELS INTERNATIONAL FAIR
Brussels. April 23—May 8, 1955
Textiles

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DEPARTMENT OF TRADE AND COMMERCE
OTTAWA, CANADA